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ABSTRACT

Traditionally program strategies such as special classes, resource rooms, and itinerant teaching have been employed to meet the unique needs of the emotionally handicapped child. Urban outdoor education is presented as an additional curriculum concept in this resource guide for elementary students. Since the outdoor education method centers on employing the resources of the school site, school community, and other local resources, all material in this guide is based on activities developed by teacher participants of the Special Study Institute and derived from a one block area in New York City. This block afforded such resources as urban renewal, vacant lots, a public school, small stores, a nursing home, a subway entrance, and buildings of varied dates, construction, and architectural design--all of which may be generalized to other urban settings. Suggested activities, not meant to be comprehensive, are presented as specific examples from which other urban schools might pattern their curriculums. Each chapter constitutes an individual subject guide. Subject areas covered are: (1) Arts and Crafts; (2) Environmental (Sensory) Awareness; (3) Language Arts; (4) Mathematics; (5) Physical Education; (6) Science; (7) Social Studies; and (8) Sounds and Movement. Individual bibliographies follow each subject area. (JC)

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# AN OUTDOOR EDUCATION GUIDE FOR URBAN TEACHERS OF THE EMOTIONALLY HANDICAPPED

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presented by

THE STATE UNIVERSITY OF NEW YORK
STATE EDUCATION DEPARTMENT
DIVISION FOR HANDICAPPED CHILDREN
Section for Emotionally Handicapped Children

and the

DIVISION OF HEALTH, PHYSICAL EDUCATION AND RECREATION
Bureau of Physical Education and Recreation

in co-sponsorship with

STATE UNIVERSITY COLLEGE OF ARTS & SCIENCE AT PLATTSBURGH
Faculty of Professional Studies

and

CLINTON, ESSEX, WARREN, AND WASHINGTON COUNTIES BOCES

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Special Study Institute
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PREFACE

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The emotionally handicapped child usually has difficulty succeeding in traditional curriculums. To meet their unique educational needs program strategies such as special classes, resource rooms, and itinerant teaching, etc., feature small group instruction, permitting the emotionally handicapped child to achieve school successes. Although both special services and instructional techniques are employed to aid the emotionally handicapped, additional program concepts must be explored to reach children who are not learning effectively. The outdoor education method can be used to insure that basic curriculum concepts are enriched.

The teacher of the emotionally handicapped child can use the ideas put forth in this Special Study Institute proceedings to modify and enhance the curriculum needs of their students. The world one step outside the classroom does not change for anyone. Direct understanding and the mastering of everyday living experiences, coupled with vicarious learnings, can produce an extensive, and exciting learning environment for the emotionally handicapped child.

Charles Matkowski

INTRODUCTION

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As our world becomes more urbanized, children are required to learn and experience in artificial environments. Apparatus has been devised to allow children's natural urges of climbing, jumping, and moving to happen within the restrictions of limited building space. Audio visual materials have been created to allow children to see and hear the real world with vicarious happenings. Plastic models of leaves, animals, and other "natural" objects have been created to allow children direct contact with that which was never real. Text resources share with the reader a world of excitement and beauty in a manner difficult or impossible to relate to. It just hasn't been directly experienced first hand by the learner. These artificial environments and methods attempt to provide for the real needs of children, but fail as they are removed from reality and the direct life of the child.

The Outdoor Education Method is a means for the creative teacher to employ the resources of the school site, school community or other existing resources to meet the curriculum needs of her students. This first hand learning by the discovery approach will result in learning that is long lasting, more relevant to the student, and will create excitement and adventure to the learning process. There is no doubt of the credibility of this method of outdoor education in aiding children to learn. Creative teachers have used resources located around the classroom for years. A review of past practices and related literature will indicate that outdoor education as a method for curriculum enrichment

was found in rural areas emphasizing science or nature based activities and areas.

This special institute study represents an attempt to develop a guide specifically for an urban teacher on a K-6 grade level. The basic theme of this guide is to encourage the city teacher of emotionally handicapped children to use the unique urban environmental resources to meet the individual and group needs of the children in her class. The enthusiasm of the consultants who authored this guide is reflected both in the material offered and in their professional lives, as all are directly involved in providing learning experiences in and through an urban setting.

To further assure this outdoor education resource guide would be realistic and meet the real needs of a teacher confronting the realities of a city, all material is based on activities that could be developed from a one-block area. The area selected was a zig-zag pattern of New York City -- 95th Street along 2nd Avenue, up to 3rd Avenue and along 96th Street. This area offered urban renewal, vacant lots, a public school, small stores, nursing home, subway entrance and buildings of varied dates, construction and architectural design. Many features of this area can and should be generalized to other urban settings.

The activities suggested by this resource guide are not intended to be totally comprehensive. They are intended to serve as specific examples of activities that meet curriculum objectives and are a starting

point for the reader.

The basic format and layout of this guide specifically is designed to encourage the reader to write ideas, reminders, and notes in the double space type area provided for this purpose. To further aid this guide in serving as a store-house of ideas, printing was done on one page only facilitating the concept of using the blank page as a recording of additional information relating to the area being presented by the Guide. Your suggestions for improving and expanding this attempt at encouraging the city teacher to teach in and from her urban setting with this Guide should be sent the Institute Director and would be most appreciated.

If this outdoor education guide excites the reader to reconsider and use the school site community in her unique city environment to meet the learning needs of children then the purpose of our Guide has been met.

Dr. Ernest M. Coons
Institute Director

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# TEACHING ART IN THE URBAN OUT - OF - DOORS

While teaching art outdoors in the city has many obvious advantages, these advantages will have to be pointed out in the most dramatic manner possible if the typical urban elementary teacher is to budge from the security and handy facilities of the classroom to teach in the streets. With good reason, the teacher will think of the streets as dirty, dangerous and inconvenient. We must face facts - they are all these things and worse.

Yet art possibilities are to be found everywhere especially within our own environment. We must make children aware of the vast resources that are readily available outside the classroom. The teacher should be responsible for exposing the child to the out-of-doors, since it can kindle many creative ideas and activities. Most children are creative by nature and even with limited ability can have successful experiences. The teacher should introduce the guide lines of the art activity that will be dealt with each time, but should not be overly rigid or structured. This would have a tendency to stifle the child's imagination rather than provide him with the opportunities for inspiration. The teacher should keep in mind that each experience can be dealt with within the limitations of each child. Motivation can come from any part of the environment, whether it be a vacant lot, a traffic sign, a puddle or even a brick building.

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A successful art program conducted in the out-of-doors requires neither expensive equipment nor vast quantities of materials. However, it does require enthusiasm for learning. It also requires a willingness to experiment and the courage to answer a question with "I don't know but let's find out." An outdoor program works because it can be modified to fit any setting. It is stimulating because both students and teacher have the opportunity to develop new ideas through increased awareness of the real world around them, thus fostering personal growth in many new and exciting directions and concepts. To the enthusiastic teacher these reasons for using the outdoors in the city as a teaching site far outweigh the admitted advantages of staying in the classroom. Space, form, color, line, texture, sound are some of the elements of art most readily explored out-of-doors which are basic to all creative activities.

## Microblock

One way to discover these elements in the environment of a city block is to confine one's attention to its tiniest components. A magnifying glass reveals the art possibilities of peeling paint or the symmetry of a ripened dandelion head. A drop of stagnant water from an old tin can examined under the microscope yields exciting ideas for a fabric design.

## Macroblock

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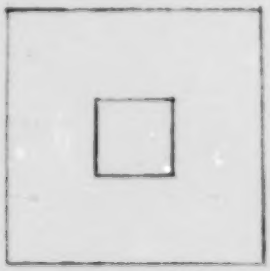
Approaching the block macroscopically, the student may become fascinated with the different styles of architecture he finds there. He could set down his impressions on a sketch pad or he might put his camera to work. He could collect textures by making crayon rubbings or he might make a collection of actual found objects.

## Maxiblock

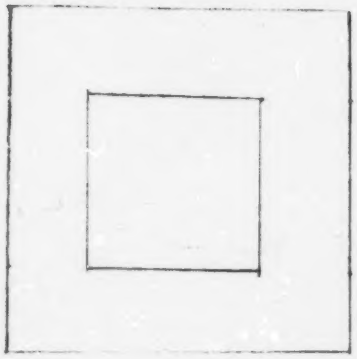
Every block provides room and an audience for events, spectacles and celebrations. A fence suggests an outdoor art show, a vacant lot a circus, a playground the site for a giant inflatable sculpture. Here there is public space to dance, parade, fly kites, produce pageants, launch air ballons!

## Visual Experiencing

Perhaps the best way to begin alerting children to the richness of their environment is to help them learn to SEE.



They will see with more understanding if their mirror is focused.



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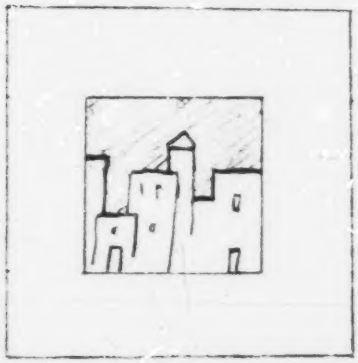
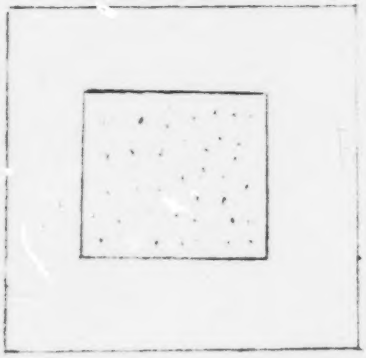
A square of cardboard with a square aperature cut in the center for each child is a helpful device.

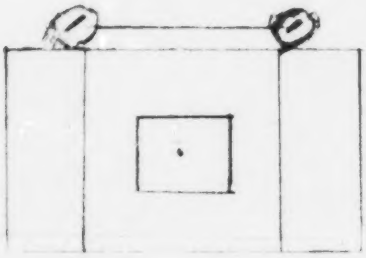


Looking through the aperature the child sees with an artist's eye. It helps him perceive as a photographer does. He can frame a city scape or ...

he can rest it on a worm-eaten plank and study its textures.



He can build a miniature cassette pinhole camera and fix his vision on film ...



and eventually work with an actual camera for a more accurate visual record.

Tactile Experiencing

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A SEEING does not tell us everything about an object. Our fingertips can give us different kinds of information than our eyes. For instance, an object can be rough, smooth, soft, hard, wet, dry.

A child's tactile awareness of surfaces can be reinforced by such activities as:

Rubbings - crayon, chalk, soft pencil, tin foil On a typical city block objects that would lend itself to rubbings would be sidewalks, manhole covers, grates, signs, and fences. Rubbings could be used to create textures panels and are also effective when individually matted and mounted.

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Spatial Experiencing

When the child is in the classroom his spatial experiences are limited. Once outside the school the possibilities are limitless. For instance, objects can be dramatically near and far, tall and short, wide and narrow.

Perspective becomes a reality when the road disappears into the distance; when buildings get smaller; when a size of a car diminishes as it drives off. Once again the cardboard viewer described previous can be used to sharpen the students spatial awareness. Youngsters can take their own photographs and slides; make their own drawings and paintings.

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The children's art activities could culminate in building a cardboard, balsa wood, or papier-mache model of the city block which could develop their understanding of scale.

Some old street games such as STATUES could be revived so that the class can be involved in body sculpture. When the children freeze into STATUES the other students can trace around the shadows emphasizing the fact that a body, the same as a tree, takes up space. The children in observing shadows cast by telephone poles, traffic signs, and buildings will realize that there is a difference in the fact that they can make their shadows move while the objects remain stationary.

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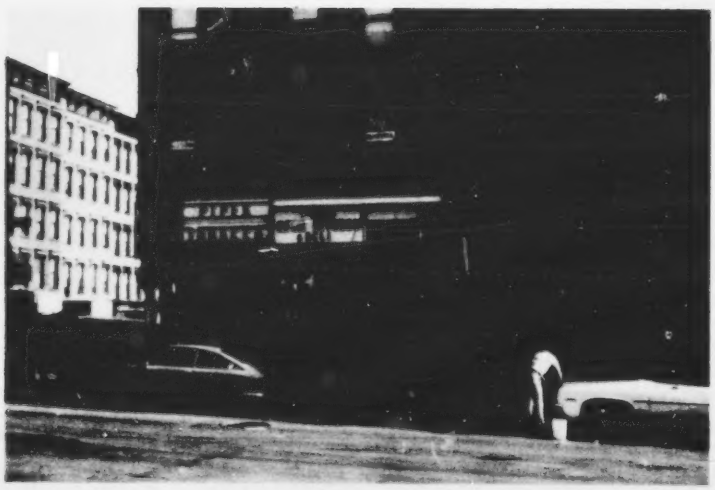

In the same way that basic art education concepts can be more effectively developed outdoors, so can many specific art activities be better experienced outside the classroom. Here are suggestions for ways in which the classroom teacher can put the environment to good use.

On-Site Art Activities:

Filmmaking (Regular 8, Super 8)

Photography (Dime store cameras, pin hole cameras, cassette pin hole cameras)

Sketching (Water colors, crayon, charcoal, pencil, cray - pas)

Blueprinting (Blueprint paper plus sun plus hydrogen peroxide and water)

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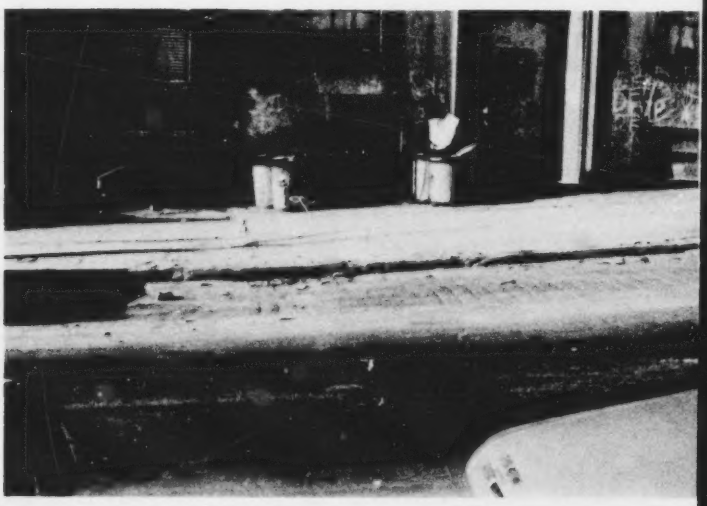
Architectural walk (Search for similar design motifs, compare windows and doorways, look for unusual ironwork, try to imagine why certain architectural designs were used, seperate the functional from the purely decorative)



Televising (take the same walk but, this time, recording it with a porta-pack)

Recording (take the same walk but voice recorded on tape)

Treasure Hunt (each student has a list of architectural details to look for - checks each off as he finds it and tells where it is located)

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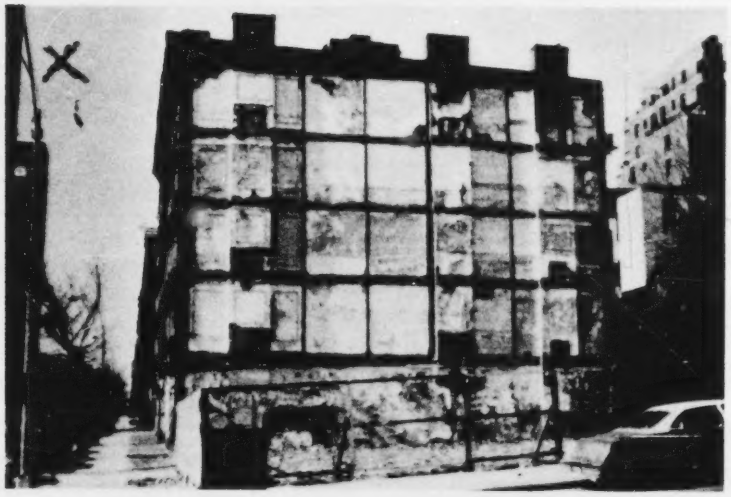
Lettering Hunt (look for different styles of lettering on unusual signs - sort out old styles from new - decorative from functional) Look for inspiration for posters and to design your own letters.



Found Object Sculpture (collect found objects that are sculpture in themselves or can be combined to make sculpture)

Texture Panels (collect relatively two dimensional material to be glued to a flat surface to make a texture panel)

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The Site As An Art Resource:

Work that begins outdoors can be completed in the classroom during inclement weather; projects can be initiated in the classroom with materials gathered outdoors; ideas originating in the street can be expanded indoors. Some examples are:

Film Making: Film shot outdoors can be edited, spliced and sound added. A festival of films shot outdoors might be held in the school auditorium during the winter.

Photography: Developing and printing can be done using school facilities. Prints could be displayed on school bulletin boards. A book on local architecture could be written, illustrated by photos and put together in the classroom.

Sketching: Sketches made outdoors could provide the inspiration for linoleum cuts, monoprints, cardboard prints, texture prints and silk screen prints made indoors.

Design: Material to be studied under the magnifying glass or the microscope could provide ideas for any number of classroom design projects.

Sculpture: Individual found objects can be cleaned up, set on bases and exhibited as sculpture, combined to make sculpture or casts can be made so that they provide the basis for sculpture in a different material such as plaster or plastic.

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Teaching Aids: Slides made by students could be used to spark discussions about such art content as reflections, shadows, texture, line, surface, color and so on.

## The Site As An Area For Events

There are some art activities which, because of their physical demands, are only possible outside the classroom; other activities which can be done inside the classroom will be more effective outside. There is no doubt that the physical limitations of cramped schoolrooms and concrete schoolyards contribute to a lack of enthusiasm for learning. Obviously, when the situation in which learning takes place opens up, enthusiasm heightens.

Sculpture: Air tunnels which introduce children to new space experiences are always exciting and successful. Cheap to assemble from plastic sheeting, simple enough for children to build, they can be readily used in an educational excercise. Air whips could be utilized at the same time.

Art Displays: There are plenty of fences on site on which to hang paintings, photos and prints. Store windows could be volunteered for three dimensional displays.

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Pageants: An historical pageant held on ____ Street could try to reconstruct the period when the first house was built.

Festivals: An art festival could be held on the school grounds with booths where children could demonstrate art skills. Banners could be hung from the school walls, dancers could perform on the blocked-off street, puppet plays and street theater could entertain parents.

Events: The street would lend itself to very active events. Hot air ballons made of tissue paper could be launched from the vacant lots; decorative kites could be flown there. A hill could be the site of a soap box derby with cars designed and decorated by the contestants.

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In anticipation of any of these events, the block could be the scene of a massive clean-up in which, not only would the appearance of the street be improved, but materials useful in art would be discovered.

Parades: Although there are always parades going on in New York they are always big events in which school children, on the whole, participate only as spectators. In small communities, everyone participates. Perhaps, an occasion could be invented so the school would have an excuse for a parade, "Artists' Day", for example. The project site could be the parade route; the costumes, floats and so on the art contribution.

## The Site As Subject Matter

The outdoors lends itself to the development of visual, tactile, and spatial experiencing, and, therefore, can be a source of inspiration for students seeking outlets for their creative expressions. Sometimes a pile of tires can suggest a sculpture; Some other examples using the site are:

1. Buildings
   a) Kinds - apartment houses, school, hospital, stores
      Drawing: Perspectives - (buildings - streets)
      Hearing pictures
      Feeling pictures - (interpretations)
      Seeing pictures

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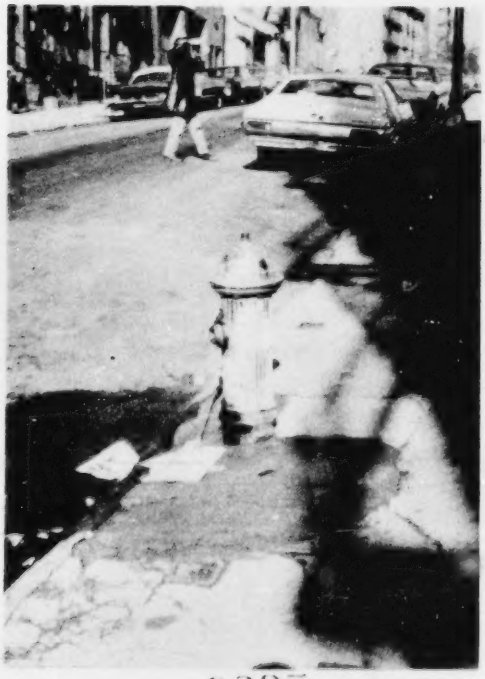
b) Characteristics - doors, windows, trim, window boxes, fences, etc.
Drawing - comparisons
Rubbings - here they can be used as part of painting.

2. Sidewalks - curbs and gutters
Rubbings
Texture
Clay Prints
Plaster Casting
Painting with water colors on sidewalk



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3. Roads and Traffic - Fire hydrants
   Drawings
   Textures
   Sound drawings

4. Views - environmental setting
   Eachings - celluloid, crayon
   Diaramas
   Seeing drawings, paintings, pastels
   Hearing drawings
   Feeling drawings (interpretations)
5. Playground - schoolground
   Clay prints (press clay into different textures)
   Work on larger that life scale sculpture in paper mache.
   Games
   Giant collages using walls as supports for mosaics made from different materials
   Supergraphics and murals

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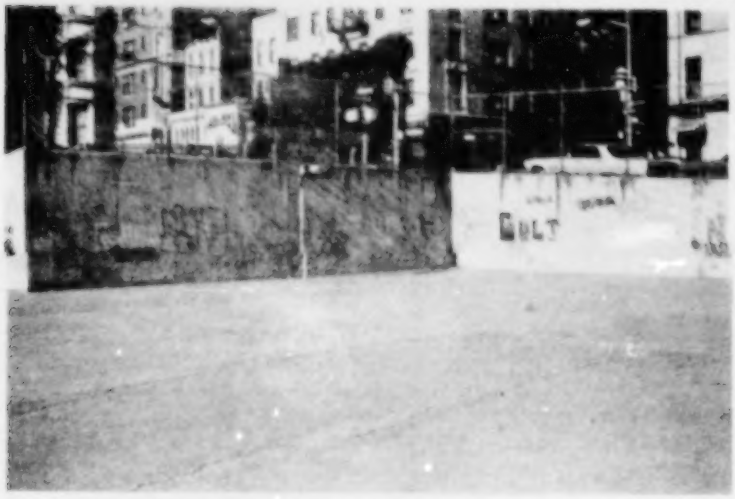
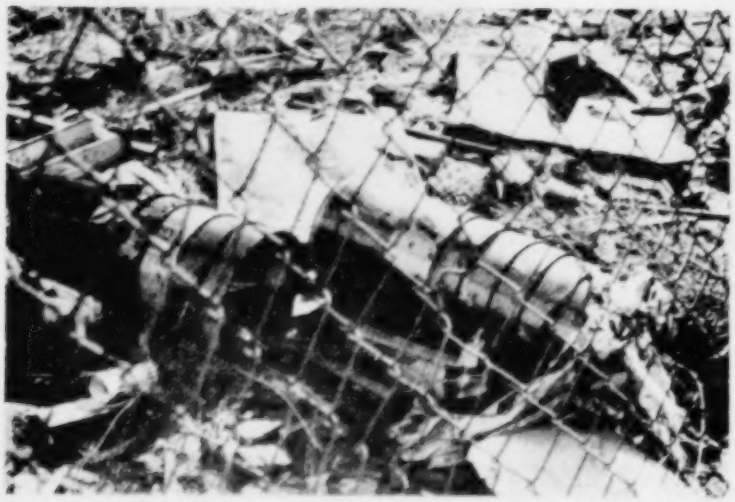


6. Litter

Collages
Mosaics - tiles, glass, stones, bottle caps
Sand casting
Assemblages
Sculpture - wire, junk
Building with bricks
Stones as the basis for sculpture



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7. Vacant Lots - same as previously for litter; A site on which to build a kiln; A likely spot to search for discarded materials

8. Nature Objects - puddles, trees, dirt, birds, sky, clouds, plantings
   Esthetic drawings (feelings, etc,)
   Weaving with twigs
   Dyeing (many messy activities are best done outdoors)
   Designs in puddles (sand or pebbles dropped into puddle)
   Clouds - children can better appreciate the movement of forms and shapes by observing the sky

9. Fences - Weaving with paper or plastic, cloth, (into the fence)
   Weaving (the fence as support)
   Macrame
   Finger weaving
   Back strap looming
   Comparing (iron - wooden - cyclone fences)
   Clay Prints (press clay into texture of fence)

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School Arts

ENVIRONMENTAL AWARENESS
(SENSORY AWARENESS)

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an involvement in the "wealth of the universe" in a
CITY BLOCK

"TO BE AWARE IS TO BE ALIVE". Thoreau

Today's classroom teachers must concern themselves not only with the learning in the classroom, but with an awareness and understanding of basic principles of ecology -- us and our environment and our relationship to it. This can happen only when we use the out-of-doors as a part of our classroom.

To know reality the child must use his senses -- thus he perceives. First-hand observation and activity in the out-of-doors cannot be counterfeited. He explores, discovers, collects, creates, interprets and evaluates his findings. He learns the delicate balance between man's wise utilization of and careless destruction of natural resources. With these concepts comes an understanding of basic environmental dependence, and an awareness of the world that he is shaping and that is shaping him.

Many city children, conditioned by their environment of four walls in the school and by the concrete, glass and steel environment outside, have few opportunities to experience the fun, excitement and adventure of exploration in an ourdoor classroom. Childhood is far too precious for us to rob them of this learning especially when it is at our doorsteps. Every child is entitled to know that nature has ordered systems of which he is a part. Every

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child is entitled to know the inner thrill derived from feeling at home with nature, from marveling at the continuity of life, from watching a living thing develop. Every child is entitled the opportunity to experience the awe and wonderment and find the satisfaction, stimulation and adventure that comes from knowing the natural world which is a vital and available part of his life even in the City.

The City block (environment for those who live, work, or go to school there) is full of living laboratories. Using the five senses and the children's insatiable curiosity are the only real requirement for putting these laboratories to good use. Let's take off our "blinders" and go exploring with our children and help them feel a real part of their environment through sensitivity and understanding. I am sure you will find the variety is enormous if the chance to experience the unexpected is not lost to habit and regulations and if you listen carefully you may hear, however faintly, the music the natural world has always danced to.

## CONCEPTS AND UNDERSTANDINGS

The CONCEPTUAL SCHEME: that living things are interdependent with one another and with their environment and that human beings are an integral part of a system consisting of man, culture and the physical environment -- and that man, among all living things, possesses the unique capability to alter the quality of the system.

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Through involvement the following CONCEPTS become a vital part of each participant:

Living things respond to their environment.
Living things depend upon the nonliving part of their environment.
Living things are adapted to perform certain duties which relate to the balance in nature.
Soil is an important factor in all land environments.
Soil helps provide homes for animals.
Animals use materials from their environment for their needs.
Man uses materials from his environment for his needs.
People need each other and other living and nonliving things.
Beauty is all around us to enjoy and share.

Through involvement comes a way of learning by observing, thinking, and doing. Inquiry and investigation are the child's tools for extending and deepening his interests and understanding of his world -- a dynamic growth process offered by his daily life experiences. The problems he encounters in the 'little worlds' he is exploring and his ability to identify, to cope, to solve are his tools for his future.

And if through his investigations he discovers feelings of pleasure and a sense of intermingled serenity and exhilaration from such simple taken-for-granted things as textures of a tree trunk, a 'lowly' insect, a tiny vulnerable seedling, a sparrow's song, a stone's smoothness, a stalk of grass miraculously growing in a

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crack in the city sidewalk --- feelings that tend to bring persons closer to one another and close to their own deepest reactions, providing a climate which can foster self-appraisal, mutual understanding and trust.

Yes, there is hope for our future!

## THE GREEN GRASS GREW ALL AROUND, ALL AROUND

"...a leaf of grass is no less than the journeywork of the stars..." Whitman

Of all the green-growing forms of life, grass is one of the most humble and at the same time one of the most insistent and assured. There are about 5,000 species of grasses in the world and they often have to find a roothold where nothing else can survive.

We eat grass every day in many different shapes and sizes. Our breads, cereals and cakes are made of the seeds (wheat, oats, rice, rye, barley, corn). The meat we eat is from animals that feed on grasses.

Grass leaves and seeds are the food of many birds, insects and mammals.

Grass holds the soil and lets the rain sink into the ground, reducing dust, mud, and erosion in the city.

Grass puts oxygen into the air we breathe.

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Let's go exploring for grass growing near our school!

1. See if you can find three different green shapes growing along the edge or out of the side of your school building. Pick one of each shape. Share with a neighbor. Then go for a walk around the block to see if you can find any building shapes like the grass shapes.

2. Find a tree near your school and see if the same grasses grow around the tree. See if you can find a different shape to add to your grass collection. Is a living thing using your grass for a home?

3. Check the cracks of the sidewalks to see how many different grasses grow there in spite of all the walking that goes on daily.

4. Visit your playground and see if any of the equipment is designed like your grass samples.

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5. Do your grasses all feel the same and are they all the same shade of green? Do they smell the same?

Nature affects us in many different ways. As we explore our GREEN GRASSES our sense of sight, smell, hearing, and touch all react.

How do <u>you</u> feel about GREEN?

IS GREEN __

| | | |
|---|---|---|
| dead | | alive |
| cool | | hot |
| calm | CHECK THE ONES | exciting |
| young | | old |
| changing | THAT ARE RIGHT | static |
| soft | | rough |
| laughter | FOR <u>YOU</u> | tears |
| serious | | carefree |
| quiet | | loud |
| bold | | shy |
| sweet | | sour |
| bright | Here's the place for | dull |
| _____ | your very own feeling | _____ |
| _____ | about GREEN | _____ |

## SEASONAL ACTIVITIES

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SPRING: When you feel the warmth of the sun flowing through your veins and smell Spring in the air, go look for grass flowers. They are like tiny tiny stars and you can hold one in your hand! You can even make up a poem or story about your treasure.

FALL: When you feel the excitement of the first tang in the air, smell the glory of ripeness in the air, and see many birds traveling together high above the buildings -- go visit your patches of grasses. See, feel and smell the harvest of seeds on your grasses. Maybe some "wild animals" are feasting on the seeds. Maybe some birds will stop over for lunch. Maybe some "wild animals" are putting grains in storage for the long winter months ahead. See if you can find how different shaped seeds travel.

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WINTER: After the first snowfall visit your grasses close to the school buildings and see if you can find any small tracks there. Feel the earth under the plants and then in a bare spot to see which is warmer. Listen and maybe you will hear your plant croon a soft sad song. You will need to whisper to each other because the earth is sleeping. You may even hear a leafless tree, crusted from night with winter ice and snow, make bell-like music.

Suggested reading:

Russell, H.R., Ten Minute Field Trip. Chicago: J.G. Ferguson Publishing Company, 1973.

Busch, P., Living Things in Vacant Lots. New York: World Publishing, 1970.

---- Lions In The Grass. New York: World Publishing, 1970.

GETTING TO KNOW A TREE

Find a tree that looks interesting.

Is it bigger than you?

How much bigger?

How wide is it?

Can you put your arms around it?

What does your tree feel like? How does it smell?

Is it old or young? How do you know?

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Are there any buds
or leaves
or flowers
on the branches of your tree?
What are they like?
Draw a picture of them....

Think of ways
in which we can
take care of trees. What important things do
we get from trees?

What are some ways
you can have fun
with a tree?

Look on and around your tree.
What other things can you find?
How do they relate to your tree?
Do they help it? Do they hurt it?
Does your tree help them?

Pretend you are a tree!
How do you depend on things
around you to grow?
Do you make your own food or
do you hunt for it?
Where do you get the ingredients
for your food?
Name three food ingredients.

Now sit down for a while and enjoy your tree
and everything around it ...

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When school starts in September find a tree near your school and make it your very own tree. Explore it every week to see what changes occur;

Who moves out? Who moves in?
How does your tree get ready for winter?
How do you get ready for winter?
Who uses your tree in the winter months?
What do you see on the "bare" winter twigs?

See if you can discover what part of the tree wakes up first after its winter rest. Do you wake up like a tree?

Suggested reading:

Busch, P., Once There Was A Tree. New York: Scholastic Book Service, 1971.

Webber, I., Thanks To Trees. New York: Scott Publishing Company.

## A WINDY DAY ON A CITY BLOCK

Take a walk on a windy day and share your feelings ...

Did your skin tingle?
Did your eyes water?
Did you have to avert your head or turn your body to cut through the swirling gusts.
Did you lose your hat?

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Did you see the direction of the column of smoke from a chimney on a tall building?

Did you see anyone walking backward? Why?

Did you see papers racing with each other?

Did you see dust whirling in the air?

Was there sunlight dancing?

Did you see the clouds sweeping the sky?

Did you hear the wind as it rushed past?

Did you hear it moving things on the street?

What did it move?

What couldn't be moved by the swirling gusts?

Did you smell something in the wind?

What do you think you smelled?

Where on your block does the wind seem strongest?

Where did it seem most quiet.

Did you like your windy adventure?

Write a story or a poem about the wind.

## WILD ANIMALS IN THE CITY

A schoolyard, exposed as it is to the sun, wind, and rain is an exciting place for observing the forces of nature at work.

Birds, animals, and insects are among the wild life that may be observed.

ANTS

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More than a hundred million years ago there were ants scurrying about on the earth much as they do today.

Their reputation for industry is widespread being noted in Biblical times when King Solomon gave the advise, "Go to the ant ..... consider her ways to be wise."

All ants live in colonies (there are more than 6,000 different kinds of ants). The place where a colony live is called a nest.

Explore your schoolyard in search of ant life. Here are a few things to look for:

1. Do all ants look alike?
2. What do they eat?
3. Do they feed each other?
4. Are all the ants in the colony the same?
5. Can you see signs of different kinds of work being done?
6. What is going on in the nest?
7. Do ants sleep? How do they wake up?
8. Do they take a bath?
9. Did you find a trail?
10. Where did the trail lead?
11. Did you find ant eggs, larvae, pupae?

Would you like to make an ant colony to observe in your classroom?

## COLLECTING ANTS

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Ants are not easy to collect. When you uncover them under a board or a rock, they are alarmed and run around in great excitement.

Scoop the ants up with a large spoon or pancake turner and put them in a plastic bag as quickly as you can. Close the top of the bag by twisting it into a knot.

Then place the bag in a cold place. In cold weather, you can put the bag on a window sill. Or perhaps you may be allowed to use the refrigerator. In a few hours the ants "cool down", and it is easier to put them into a nest.

You will need a nest for them. A shallow, clear plastic box with a lid is a good choice. This type of box can be purchased in a five-and-ten cent store. The lid should fit tightly so that the ants cannot get out.

Place the ants and soil in the bottom half of your plastic box with the lid closed with adhesive tape as a sealer.

The ants have to breathe. Heat an ice pick or any other sharp object and puncture two holes in the lid of your box. Plug the holes with cotton. The cotton lets the air pass through but keeps the ants from escaping.

You may have trouble with ants escaping from the nest because there are tiny holes you cannot see. If this

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happens, put your nest in a pan of water. Ants will not go into the water unless they are very excited.

Ants need water. You can add a few drops of water every day through one of the holes.

Ants need food. You can drop bits of food through the other hole. Try a drop of honey mixed with water. Try pancake syrup. Try jelly. Try fruit. Try a bit of hardboiled egg. Try peanut butter. Ants will eat almost anything as long as the food is not completely dry. Ants do not need much food. They are very tiny. One drop of honey can feed 50 ants. Feed the ants only once a week.

Suggested reading:

Selsam, M.E., Ants. Scholastic Book Services.
Shuttlesworth, D., The Story Of Ants. Doubleday

## WILD ANIMALS IN THE CITY

Let's go exploring for "City Animals". The park is a good place to sit for a few minutes to listen for any clues. Find a good place to sit. Close your eyes and listen for sounds. How many "wild animals" can you hear? Open your eyes and how many do you see?

Did you see a SPARROW? A sparrow is a very small bird. The male is gray with smart brown and white wing

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bars, a brown mask and a black bib. The female is a beautiful soft brown.

They often nest under the eaves of buildings or on a window ledge or in ivy climbing up buildings.

They eat seeds and bread crumbs and frequently have a big 'party' with all the sparrows of the neighborhood sharing the 'feast'.

They drink out of puddles and sometimes splash around taking a "sparrow bath". Sometimes they take a dust bath, which helps keep their feathers free of lice. Maybe you can find a little depression in a dusty, trodden bit of earth where a sparrow had his dust bath.

When the sparrows have babies they feed them insects and caterpillars. If you are lucky you may see the morning breeze blowing the hairs of a caterpillar who was not breakfast for a bird.

Sparrows do a great deal of chirping especially on sunny mornings. In the winter it is a delightful experience to hear a symphony of sparrows sharing their joy with all who listen.

# SOIL

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Dig a small hole
and put the soil you remove on a piece of newspaper ...

How deep is the hole?

What color is the soil at the sides and top of the hole?

Feel the soil on your newspaper ...

Is it damp or dry? _____

Is it hard or soft? _____

What kinds of soil do plants like best? _____

Does the soil stick together if you make a ball out of it? _____

How many animals can you find in the soil?
Name them or draw their pictures ...

Why do plants and animals need the soil?

Why does the soil need the plants and animals?

Suggested reading:

Farb, P., Living Earth. New York: Harper & Row, 1959.

Russell, H.R., Ten Minute Field Trip. Chicago: J.G. Ferguson Publishing company, 1973.

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# ROCKS AND STONES

"In the morning the city
Spreads its wings
Making a song
In stones that sing ..."
Langston Hughes

Cities are made by men but the materials used to build the cities comes from the earth. Some are used in their natural state. Others are refashioned by men. The use of different materials is determined by their characteristics: hardness, transparency, beauty, cost, etc. Changes take place in building materials as a result of use, friction, weathering, erosion. Every rock and stone (materials) is a piece of the earth.

Is there a child who doesn't collect treasures of the earth?

Smooth stones, rough stones,
dark stones, light stones,
stones that glitter and shine ...
Where do they come from?
How were they made?
What is in the stones?

Let's go exploring for stones near our school!

Pick up a rock and look carefully at it.
What shape and color is it?
Now close your eyes and feel the rock with your fingers and with your cheek.
Is it heavy?
Think of something else that is as heavy as your rock.

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How big is your rock compared to you?
How hard is your rock?
What can you find that you can scratch it with?
Pick up two rocks - one big and one small. If you drop both of them at the same time - which will hit the ground first? Try it ...
What are rocks good for?
What can you do with them?
Find a rock that you really think is nice and bring it back to a friend who is absent ...

## CAN THE SHAPE OF ROCKS BE CHANGED?

Materials: Strong mallet, and canvas bag.
Try squeezing a rock in your hand. Does this change the shape of the rock? How can a rock's shape be changed?
See if any of the children can change a rock's shape or surface. (Some may rub the rock's together).
How long does it take to change a rock's shape?
Outside on the playground the rocks can be placed in the canvas bag and broken with the mallet.
Children will examine the interior. Discuss and compare the outside and the interior of the rock.
Was it easy to break the rock? Which ones were easy to break? Which ones were difficult to break?
What forces act on the surface of the rock in nature? How?
Discuss the various methods. Some children may wish to demonstrate methods they think will show the phenomena in action.

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How could we see heat break a rock?
Is there a way to see water's effects on rock?
What does falling do to a hard rock? A soft rock?
What are the effects of grinding together on the rocks?
The children can make a comparison of the effects of various phenomena on a hard rock versus a soft rock.

Examine your school to see how many different materials from the earth man has used.

Visit another building to see if the same or different materials were used.

Suggested reading:

Wyler, R. and G. Ames., Secrets in Stones. New York: Four Winds Press, 1972.

Cormack, M.B., First Book of Stones. New York: Franklin Watts.

Gans, R., The Wonder of Stones. New York: Thomas Crowell.

Russell, H.R., Ten Minute Field Trip. New York: J.G. Ferguson Publishing Company, 1973.

## COLOR AND TEXTURE

The textures of life are woven in rainbow hues ---
always there for the sensitive, seeing eye.

Color and texture is all around us -- in every building,

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on every street, on every person, in the cracks in the walk, in the birds that fly, in the sky above, in the air we breathe, everywhere. The color of everything is partly its own and partly borrowed from the ever-changing light that strikes it. Textures give colors different qualities.

Let's explore the outside of the school building:

Early morning. Noon. Before leaving.
How many colors do you find?
Are the colors different at different times of the day? Why?
Do textures make the same colors look different?
Before a storm? After a storm?

White is a color, too. Sunlight, though it seems to be white, is a mixture of many colors.

What could help you see the colors?
Droplets of water?
Puddles after a rain?
Drops of dew on a stem of grass?
A hunk of ice (winter)?
All of these are nature prisms!

When rocks (buildings) are lighted by an early morning sun, black shadows weave a fabric of colors and textures.

How do they change during the day?

HOW DO COLORS MAKE YOU FEEL?

HOW WOULD YOU FEEL IF EVERYTHING WAS EXACTLY THE SAME COLOR?

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SPRING IS A NEW BEGINNING

As far back as the legends reach, this has been a time when man stood in awe and wonder and watched the miracle of life returning to a world that has known the desolation of winter.

All around us we see and hear and feel and smell the signs of life renewed. Up through the cold, wet, decaying leaves the bulbs probe with green fingers to test the temperature. Fine green shoots sprout like emerald fringes. Brown buds swell - soon to shed their winter jackets. Willow stems turn pale yellow-green as though pulsing with amber honey. Sugar maples yield their sweet flow to the sugar makers. Firs and pines stretch their new pale green growth tips on every branch.

The winds blow softly from the southwest and we can feel the roots quicken, hear the hum of the bees hurrying to gather the early pollen for honey-making. Insects are busy working after their long winter hibernation and the worms come up from their deep burrows to go on with their earth-moving work.

The air is full of chattering and caroling announcing the return of the birds. Listen carefully - hear the different songs - those of the males claiming territory and those that are singing mating songs.

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We smell the earth in its springtime freshness and feel the warmth of the sun flowing through our veins and the desire to share the magic of spring becomes a vital part of life.

Spring is a happiness
So beautiful,
So unique,
So unexpected,
That I don't know what to do with my heart.
Emily Dickenson

You don't have to be a botanist, a naturalist or a scientist to use the out-of-doors as a part of your classroom. All you need is an attitude. "Let's find out together" is a good beginning for an exciting adventure in learning for the teacher and the children.

Suggested reading:

Russell, H.R., Ten Minute Field Trip. Chicago: J.G. Ferguson Publishing Company, 1973.

---- Small Worlds. Boston: Little, Brown and Company, 1972.

A Place To Live. New York: National Audubon Society, 1970.

People and Their Environment. (Teachers' Cirriculum Guide. Grades 1-2-3 Grades 4-5-6.) Chicago: J.G. Ferguson Publishing Company, 1969.

Bibliography:

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Recommended books for classroom use:

General:

Bendick, J., A Place To Live. Parent's Magazine Press.
----- Living Things. Franklin Watts.
Case, M., Look What I Found. Chathan Press.
Howell, R., A Crack In The Pavement. Atheneus.
----- Everything Changes. Atheneus.
Pringle, L., (editor) Discovering Nature Indoors. Natural History Press.
----- Discovering The Nature Outdoors. Natural History Press.
Farb, P., Living Earth. Harper and Row.
Rubiowsky, J., Nature In The City. Basic Books.
Selsam, M., See Through The Forest. Harper.
Young, M., Slow As A Snail, Quick As A Bird. Lathrop.
Russell, H., Small Worlds. Little Brown.
----- Soil. Little Brown.

Seasonal:

Sterling, D., Fall Is Here! Natural History Press.
Fisher, A., Where Does Everyone Go? Thomas Crowell.
Blough, G., Soon After September. McGraw Hill.
Sterling, D., Spring Is Here! Natural History Press.

Stones:

Cormack, M.B., First Books of Stones. Franklin Watts.
May, J., They Turned to Stone. Scholastic Book Serv.

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George,J., All Upon A Stone. Thomas Crowell.
Gans, R., The Wonder of Stones. Thomas Crowell.

Plants and Seeds:

Selsam, M., Birth of a Forest. Harper and Row.
-----The Plants We Eat. Harper and Row.
-----Play With Seeds. Morrow.
-----Milkweed. Morrow.
-----Maple Tree. Morrow.
Huntington, H., Let's Go To The Woods. Doubleday.
Webber, I., Thanks to Trees. Scott.
Busch, P., Lions In The Grass. World Publishing.
Wood, D., Plants With Seeds. Follett.
Ladyman, P., Learning About Flowering Plants. Scott.

Insects, Animals, Birds:

Hess, L., The Praying Mantis. Scribners.
Williamson, M., The First Book of Birds. Franklin Watts.
-----First Book of Bugs. Franklin Watts.
Selsam, M., The Bug That Laid the Golden Egg.
Harper and Row.
-----Terry and the Caterpillars. Harper and Row.
------Questions and Answers About Ants. Scholastic.
Hogner, D., Odd Pets. Scholastic.
Zim and Cottam., Insects. Golden Press.
Brouillette, J., Insects. Follett.
Knight, D., Let's Find Out About Insects. Franklin
Watts.
Tibbits, A., First Book of Bees. Franklin Watts.
Brenner,B., The Snake-Lovers Diary. Scott.

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Sterling, D., Caterpillars. Doubleday.
-----Insects and the Homes They Build. Doubleday.
Hornblow, L. & A., Fish Do The Strangest Things. Random House.
Shuttlesworth, D., The Story of Ants. Doubleday.
Gans, R., Birds Eat and Eat and Eat. Thom. Crowell.
Hogner, D., Grasshoppers and Crickets. Thom. Crowell.
-----Frogs and Polliwogs. Thom. Crowell.
Huntington, H., Let's Look at Insects. Doubleday.
Rord, R., Bees, Bugs and Beetles. Scholastic.
Hussy, and C. Pessino, Collecting Cocoons. Thom. Crowell.

Special For Classroom Follow-Up:

Busch, P., From Field to Forest.
-----At Home In It's Habitat.
-----Lions In The Grass.
-----A Walk in the Snow. J.B. Lippencott Co.
-----Once There Was A Tree. Scholastic
Golden, A., Spider Silk. Thomas Crowell.
Brenner, B., Is It Bigger Than A Sparrow? Alfred Knopf.
Wyler, R. and G. Ames. Secrets In Stones. Four Winds.

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## LANGUAGE ARTS

The basic assumption of this author and his writings is based upon the fact that language arts is interpreted to be the following curriculum areas:

1. Reading
2. English
3. Listening
4. Speaking
5. Writing

These areas may be conclusive, all inclusive, separately, or in combination with each other.

The city environmental resources are listed to aid the teacher in accomplishing the language arts objectives and activities. All resources have not been specifically listed with the suggested activities so that the teachers approach can be more creative, and to help them with their own observational skills of the varied resources that can be used in an urban environment to better enrich the language arts skills for the elementary school child (K-6).

The basic thrust of this project is to provide only a BEGINNING for the urban teacher to creatively use their unique environmental settings to enrich the learning lives of children.

It is further hoped by this author that the teacher will find their urban resources to be a unique, marvelous place to stimulate and motivate children to the joy and appreciation of their environment as a pleasurable learning

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laboratory.

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We must cause the child to look for and see many things in his environment. Ordinary things? Yes, the real world of the child!

The following physical facilities and functions in an urban setting should be used to accomplish the Language Arts objectives and activities found throughout this section:

A. Buildings
   homes
   business
   institutions

B. Sidewalk

C. Curb

D. Roadways
   parking areas
   traffic

E. Signs

F. Views-Perspectives

G. Playground

H. Boundary Markers
   fences
   walks

I. Utilities
   subway
   lights
   transportation
   water

J. Vacant lots

Teachers should look for seasonal differences and ecological differences from the above and the following

listed resources.

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Following is a list of suggested resources to enrich the Language Arts curriculum:

school
vacant lot
telephone booth
sidewalk
bushes
new concrete
old concrete
brick building
flowers in window
no curtain at window
trees
protection around tree
dry cleaner shop
pizza
street light
rubbish
people in windows
bridge in distance
clouds in sky
parking meters
mailbox on street
mailbox at doors
curb
fence (wire)
broken glass
pets
garbage cans
vegetable and fruit shop
grill fronts
wound burlap at trees
car at curb
earth and paved areas
look up-tops of buildings, sky
looking through wire fence
fallout shelter
birds - seagulls, pigeons
factories in distance
doorways
paint
different kinds of bricks

upper roadway
smoke
groceries
initials in concrete
walk downs
wood
advertising signs
stop lights
wires (electricity)
railways to homes
art work on buildings
drainage
awnings
fire hydrants
walks
signs- no parking
parking lot
chimneys
torn down buildings
fire escape
window box
singing from power line
sun shining through cellarway
direction signs
bottle caps in street
noises
smells
heights
structures
hill in street-climbing of hill
perspectives in distance
water
nursing home
different perspectives
movement in areas
color
enclosures
look down

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fuel oil imput cap
flag
cold, hot areas
microclimates
erosion of buildings
cracks in sidewalks
lights
all came from earth
touch-feel-marble
read signs
curb your dog
store advertising
blinking car lights
subway entrance
subway
man's writing on signs, buildings sidewalk, etc.
Deli- shortening of words
other languages
dentists
Dr. Surroman
store fronts
statues
police phone
bus architecture

area in transition
school, old and new
shadows
shops
walk backwards
walk on street
off street
garbage
motorcycles
window glass
brass door knobs
torn up street
bicycles
letters and numbers on buildings
license plates
different cars
size of buildings
air conditioning
graffiti
gears
doors
overhangs
sewers
litter

We must start where children are and not where we would like them to be. A teacher must ask himself: What are my objectives for this year for this group? Then he should write them down, revise them where necessary and continue to rethink what he is working towards. This will be based on his rationale for utilizing every opportunity to use the environment for experience and activities related to the children's interest and the stated objectives.

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In carrying out these concepts and activities refer to the list of resources on previous pages.

OBJECTIVE:

To recognize the two parts of a sentence.

ACTIVITY:

After a discussion on nouns and verbs have the class take a walk around the playground or down the street noticing the objects and people around them. When back in the classroom, make a list of the nouns and actions observed on the blackboard or chart. From this, have the class make sentences about what they have seen. These could be written on cards and placed around the room. (ie.) The dog ran into the street.

OBJECTIVE:

To recognize subject-verb agreement.

ACTIVITY:

Take a walk. Look at the people you pass while on your walk. On return to the school, have each child write three sentences about people he noticed. Check for subject-verb agreement. (ie.) The red haired grocer was sweeping the sidewalk.

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OBJECTIVE:

Expand basic pattern sentences by adding single word adjectives and adverbs.

ACTIVITY:

Have the class observe one object (tree, cloud, building). Take turns describing this object by adding different adjectives and adverbs.

OBJECTIVE:

Recognize word order as essential to meaning in sentences.

ACTIVITY:

Take the class outdoors. Have each child write two sentences about what they see. Back in the room, collect one from each child. Scramble the word order and write them on the board having the children unscramble them. Then have each child scramble the order of his other sentence and exchange this with another student to unscramble.

OBJECTIVE:

To identify questions and answers.

ACTIVITY:

Take the class outdoors. The teacher first will think of an object she sees. Let the children take turns guessing the objects, characteristics, and location. The teacher can only answer yes or no. The person who guesses the object will think of the next object. (ie.) Is it a building? NO. Is it very tall? NO. Does it have wheels? YES. Is it a car? YES.

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OBJECTIVE:

To substitute appropriate words in pattern sentences.

ACTIVITY:

Form a circle. The person who is it stands. He will form a sentence describing something he sees but will leave out the subject. (The _____ is white.) He then will call on people to complete the sentence. There will be many variations. The activity continues until all have formed a sentence.

OBJECTIVE:

To have students realize the importance of using all of their senses when making observations.

ACTIVITY:

Each child must choose one natural object in the environment. (rock, bark of tree, insect, leaf) He must use his senses to describe this object. How does it feel? Does it smell? On return to the class have each child write about his findings. A picture may be drawn of his object also.

OBJECTIVE:

Understand and use basic sentence patterns.

ACTIVITY:

Take a short walk with the class. Ask questions as you walk encouraging complete thoughts for answers. (Where is the bus? The bus is on the road.) On return to school have the children write about their walk. Check to see the sentence pattern used.

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OBJECTIVE:

Use words and phrases to expand sentence patterns.

ACTIVITY:

Have the class form a circle on the playground. Have one child choose something he can see to start the sentence. Have other children add to the sentence. (ie.) The fence- The old fence- The old white fence- The old white fence stood in the yard. (Add adjectives and phrases.)

OBJECTIVE:

The child learns to use pronouns.

ACTIVITY:

Have the class break into groups. One child from each group will start with a sentence about something he sees. (The clouds are dark.) The child next to him will change the noun to a pronoun. (They are dark.) He then thinks of another sentence.

Each child will choose an object he sees and observes for a while. He then will write about this object, using pronouns, as if he were the object. (ie.) I am a stoplight. My colors are red, green, and yellow. They are blinking on and off all day.

OBJECTIVE:

To write a simple poem.

ACTIVITY:

Have each child write a Haiku about something he

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enjoys outdoors. Haiku is Japanese poetry. It consists of three unrhymed lines of seventeen syllables which forms a complete thought.
1st line - 5 syllables
2nd line - 7 syllables
3rd line - 5 syllables

OBJECTIVE:
To expand basic sentence patterns by adding single words.

ACTIVITY:
After a lesson on adjectives take the class outdoors. Have them try to imagine their city if it was not a city. What would be there instead?.. On return to the classroom have each write a short story about their land using complete sentences and adjectives.

(After the class has been introduced to phrases.) Have the class take a walk observing people at their jobs. (storekeeper, mailman, etc.) On return to school have each child write a story about the person he has chosen adding phrases to futher describe the person. A picture of this person can be drawn and colored. The two could be stapled together with a title page for a mini-book.

OBJECTIVE:
Understand and use the process of compounding by building compound sentences.

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ACTIVITY:

Choose a theme such as the weather, animals, insects, etc. Have one child think of a sentence related to this area after observations. Have another child add a complete related sentence to this. (ie.) The clouds are white and the sky is blue.

One person starts by saying: What I see is high up in the sky. Another child: The airplane and the building are high up in the sky. Game continues. What I am thinking of is the color red. The stop sign and the school are red. Each time two objects must be given.

OBJECTIVE:

Expand basic pattern sentences by adding groups of words which operated as adjectives and adverbs.

ACTIVITY:

Have the class observe an ant colony or any insects which might be outside the school. Have them write about what they have observed using adjectives and adverbs to describe what they have seen.

OBJECTIVE:

The child learns to listen and describe the sounds around him.

ACTIVITY:

Take the class outdoors. First stop outside the school and listen very quietly. Have the children

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describe what they hear using complete sentences. Continue walking down the street stopping two or three times to repeat above.

Choose a theme. (traffic, people, animals) Have the children listen quietly for sounds related to the theme and then describe these sounds.

OBJECTIVE:
To identify sounds.

ACTIVITY:
Form a circle on the playground. Have the children listen quietly to the sounds around them. The locations of the sounds should be determined also. (ie.) A door closing - store down the street.

OBJECTIVE:
Identify likenesses and differences in the sounds of words.

ACTIVITY:
Give each child a crayon and four or five cards before going outside. Instruct each child to write the name of an object he sees on each card. Back in a circle the teacher will take the cards comparing two or three words each time for likenesses or differences in the sounds. (ie.) Car, Candy, Tree - K sound for C car and candy - Children should make the distinction.

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OBJECTIVE:

To distinguish between various sounds and to categorize them according to likeness.

ACTIVITY:

Before going outside discuss how many sounds are similar or can be grouped together. Decide on various categories to be listened to. Once outside the teacher should be the secretary for the group recording the sounds in categories designated by the pupils. Back in the classroom an evaluation of each list should be made to place sounds in the correct categories.

OBJECTIVE:

To teach children about personification.

ACTIVITY:

Have the children write a biography of the fire hydrant. This can be an individual or group effort.

OBJECTIVE:

To use one's imagination and to form mental images.

ACTIVITY:

Have each child imagine who lives in the apartment with flowers in the window. Their thoughts can be written in story form and shared with others in the class.

OBJECTIVE:

To notice words in the environment.

ACTIVITY:

Walk down the street and notice the signs for traffic and advertisements. Let each child

design his own sign. (Could be used for a bulletin board)

OBJECTIVE:

To spell words correctly.

ACTIVITY:

A spelling-bee can be held outdoors using words from objects around the students. (windows, taxi, fence, tires, building)

OBJECTIVE:

To pantomine objects in the environment.

ACTIVITY:

Sit in a circle. Choose a theme. (trees, people, animals) Let each child pantomine his thoughts about the theme.

OBJECTIVE:

To have students realize poetry is a means of communicating ideas.

ACTIVITY:

What is it like to take a walk on a sunny day? (rainy day, cold day, etc.) Go for a walk. Let the children talk about their feelings. Do they want to hurry because it's cold, stop and play in the puddles, etc. Have each child express his thoughts in a poem.

OBJECTIVE:

To talk to people in the school's neighborhood.

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ACTIVITY:

Schedule times when the class can talk to the businessman in the area. Encourage them to ask questions about the person's work.

OBJECTIVE:

To read about one's city.

ACTIVITY:

How old are the buildings around the school? Observe and notice which ones aged faster. Collect books from the library on your city. Find how old some of the buildings are. Talk to people who have lived in the area for a long time.

OBJECTIVE:

To have students realize the importance of utilizing all of their senses when making observations.

ACTIVITY:

Choose one object in the environment. (mailbox, sidewalk, etc.) Have the children describe the object. Now have the children re-examine the object. They will be able to describe the object with a greater detail when they take more time to examine the object.

OBJECTIVE:

To give students practice in recording about daily events which occur near their school.

ACTIVITY:

Have the children keep a daily log about the events which occur outside their school. Three

or four children can be in charge of this each week, informing the others of things they noticed.

OBJECTIVE:
To spell words related to the school's environment.

ACTIVITY:
Make a list of the materials used to build the city around the school. Place these words on cards around the room. Pictures can be drawn of the objects of each material. Display in the room.

OBJECTIVE:
To do research on building materials and to write letters inquiring about building materials.

ACTIVITY:
Determine the building materials used for buildings near the school, for the roads, etc. Collect books from the library on where these materials are made. Write to construction companies asking for further information. (where do they obtain their wood, steel, etc.)

OBJECTIVE:
To give students practice in writing.

ACTIVITY:
Record the number of cars which pass by the school in a certain amount of time. Have the children write a story about where they think one car will be going.

OBJECTIVE:
To provide opportunities for students to use their imagination through dramatization.

ACTIVITY:
Observe the living creatures near your school. (insects, birds, etc.) Develop short skits about them. (ie.) Birds - come to certain places every day to feed, digs for worms in the vacant lot, sits on nearby rooftop to feel sun's warmth, sleeps under building rafters at night.

OBJECTIVE:
To have students realize the importance of using their senses when making observations.

ACTIVITY:
Collect objects according to their touch - rough, smooth, bumpy, coarse. Make a display of these objects according to their characteristics.

OBJECTIVE:
To give students an opportunity to discuss what they have observed.

ACTIVITY:
Observe the animals and insects around the school's neighborhood. First discuss what living creatures were observed. Then discuss how each one lives, where it obtains its food, will it always live in that environment, etc.

OBJECTIVE:

To identify questions and answers.

ACTIVITY:

Have the children collect objects they have found outside the school or near their homes. Play a game of 20 questions. Children may ask up to 20 questions about the objects. Only yes or no answers may be given. The child who guesses the object then has his turn.

OBJECTIVE:

To give students practice in writing about what they've discovered in the out-of-doors.

ACTIVITY:

What happens to rain water in the city? After a rain shower take a walk. The children will find water soaking into the ground where it can. On concrete areas the water will flow into storm sewers. In some areas where there is no outlet the water will back up. Have the children make these discoveries and write about them.

OBJECTIVE:

To give students practice in researching material about their environment.

ACTIVITY:

Have the students research where their food and water comes from. Talk to grocers. Look at food packages. Write to the water commissioner to discover how water is pumped to homes in the city and to find where their water comes from.

OBJECTIVE:
To develop sensory awareness.

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ACTIVITY:
Observe facial expressions of people driving by the school. Discuss these expressions. (Are they happy, nervous, sad, etc.) Also discuss various reasons for each expression. Why?

OBJECTIVE:
To provide opportunities for students to use their imaginations through writing.

ACTIVITY:
Pretend you have X-ray vision and are able to see into a building near the school. What to you see?

OBJECTIVE:
To give students practice in writing about their environment.

ACTIVITY:
Produce a class or school newspaper on the environment around the school. Topics might be: weather, animal life, people, workers, events such as fires, new families, etc.

OBJECTIVE:
Vocabulary development.

ACTIVITY:
Start a class dictionary in notebook form. Use the words used in describing objects in the environment and new words learned for objects in the area. The children's own definitions can be used.

OBJECTIVE:
To provide opportunities for students to use their imaginations through dramatics.

ACTIVITY:
Transform your classroom to resemble the school's neighborhood. A short play can be written about the daily occurences on the street. (murals can be made)

OBJECTIVE:
To have students realize poetry is a means of communicating ideas.

ACTIVITY:
Observe the shadows made by buildings, people, wires, etc. Write a poem with shadows as the theme.

OBJECTIVE:
To provide students with an opportunity to use their imaginations through story telling.

ACTIVITY:
Choose a doorway to a building near the school. Let the children write stories about what happened behind the "mystery door."

OBJECTIVE:
To give students practice in writing and recording about interesting events they have experienced in the out-of-doors.

ACTIVITY:
Take a walk listening to the noises of the city. Let children draw pictures and write sentences

describing the noises. Could be used for a bulletin board.

OBJECTIVE:
Creative writing - to be able to write complete sentences in a story.

ACTIVITY:
Write a story using the noises of the city as a basis. Take a walk before writing the story. Let each child decide what noises he would like to write about. (car noises, horns, people laughing , doors slamming, etc.)

OBJECTIVE:
To read stories about country and city life and to compare these.

ACTIVITY:
Have children read stories and books about city and country life. After a few days take time for a discussion period and compare the two.

OBJECTIVE:
The child learns to listen and identify the sounds around him.

ACTIVITY:
Teacher tapes sounds of the city. Children will listen to these and identify these.

OBJECTIVE:
To provide opportunities for students to use their imaginations through dramatics.

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ACTIVITY:

Have the children act out objects which make noises and have them imitate the noises.

OBJECTIVE:

To provide opportunities for students to use their imaginations through writing.

ACTIVITY:

Walk and notice the signs and advertisements on billboards, in windows, in newspapers, etc. Discuss how the writers use words, pictures, etc. to sell their products. Have each child make his own advertisement.

Using modifiers (adjectives and adverbs) to describe their favorite part of the city.

Have children write a short story on the following: you are a tin can rolling down the street. Write a short story about what you see, feel, hear and describe the places the wind has taken you. Also, mention the dangers you will encounter on your journey.

Choose a tree outside the school or let children choose one near their home. Have them write about the tree's life. When did it start to grow? Who planted it? What happens to it in the summer, winter, spring, fall? What are some things it would see every day?

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OBJECTIVE:
To understand and use compound words.

ACTIVITY:
List all the compound words you see as you walk through an area. Use these words for spelling for the week - or for extra words.

OBJECTIVE:
To use nouns and recognize nouns.

ACTIVITY:
Each child must find a noun which begins with each letter of the alphabet. Have students record these on an outing or on their way to or from school.

OBJECTIVE:
Distinguish nouns from other parts of speech.

ACTIVITY:
Have students make a list of all objects on the street smaller than an automobile. (at least ten) Distinguish which words could be used for other parts of speech. ie. light, litter, walk, sign, window.

OBJECTIVE:
To communicate ideas through discussion.

ACTIVITY:
Let children write a story about a community worker. Choose a person whom they have seen working on their way to school. (policeman, storekeeper, teacher, roadworker, etc.)

OBJECTIVE:
To have students recognize beauty around them and to describe their feeling to others.

ACTIVITY:
Have each child sketch and color a picture of his favorite scene from a recent walk. This may be a building, the clouds, a happy face in a window, etc. Let him tell the class why he chose that scene.

OBJECTIVE:
To have students realize the importance of their sight and imagination when making observations.

ACTIVITY:
Look at the shapes of the clouds. Let the children use their imaginations to describe what the clouds resemble.

OBJECTIVE:
To use the environment in order to spell words located in the environment.

ACTIVITY:
Have every child think of a word starting with A that they can see from a certain location. Continue choosing other letters.

OBJECTIVE:
To use your sense of hearing to locate sounds.

ACTIVITY:
Have one person move away from the group. Line the others in a straight line. One person will

clap or whistle while the other person is turned around. He will then have to locate where and who made the sound.

OBJECTIVE:
To follow directions.

ACTIVITY:
Make a map of the school's neighborhood. Include street names and buildings. This map could be made on a large chart. Take turns having children follow directions on the map. ie. Start at school and go two blocks east, turn right at South Street and stop at the store.

OBJECTIVE:
To write complete sentences. To express one's thoughts in writing.

ACTIVITY:
Let the children choose a place near the school. After watching this place for a few minutes have them write a story about what they might see if they sat in their chosen place for a day. (a chimney top, a doorway, a fence)

OBJECTIVE:
To have students communicate their ideas through poetry.

ACTIVITY:
Have the class write a poem on what it would be like to be a wild animal living in the city.

OBJECTIVE:
To have students realize the importance of utilizing all of their senses when making observations.

ACTIVITY:
Have children close their eyes and listen to the sounds around them - what do they hear? Continue, having them put their hands over their ears and just look. Have them close their eyes and smell. Have them close their eyes and feel an object. Make them aware of their separate senses.

OBJECTIVE:
To write complete sentences.

ACTIVITY:
Choose two objects and compare them under two columns: similarities and differences. Use complete sentences.

OBJECTIVE:
To make students realize the importance of utilizing all of their senses when making observations.

ACTIVITY:
Have a theme for a walk. Hearing, smelling, seeing, feeling. Choose one theme and have the class concentrate on this theme for their walk. On return to the school list all the things people "heard" on their walk.

OBJECTIVE:
To provide students an opportunity to use their imagination

through storytelling.

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ACTIVITY:

Use a noise outside as a basis for a story. (Screeching of car tires, person yelling, door slamming.)

OBJECTIVE:

To have students realize poetry is a means of communicating ideas.

ACTIVITY:

Use city life as a theme for the poem. What is it like to live in the city? What do people do? Discuss first. Then have children write a poem. Use as a display.

OBJECTIVE:

Use of adjectives to describe objects seen, heard, felt, tasted, or smelled.

ACTIVITY:

List five or six adjectives that might apply to objects seen, heard, smelled, tasted or felt. Have the children copy the list and use it for a basis for discoveries of objects near the school to which the adjectives would apply. sharp - metal fence, pointed grass, rock soft - new snow, people's voices

OBJECTIVE:

Use of reference books.

ACTIVITY:

Have the children become familiar with any trees,

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birds, flowers, insects near the school. Have reference books available to identify each of these. Pictures and illustrations can be drawn and labled and then placed around the room.

OBJECTIVE:

To provide opportunities for students to write.

ACTIVITY:

Choose an occupation of someone near the school that the children are familiar with. Have the children write the qualifications that would be needed if that person were to hire them to work. ie. storekeeper - He would want a reliable person. He would need a hard worker, etc.

OBJECTIVE:

To provide opportunities for students to use their imaginations through dramatics.

ACTIVITY:

Have the children write short skits on the day of a bird (or other animal). Where does it eat, sleep, protect itself from the rain?

OBJECTIVE:

Improve spelling, vocabulary and power of observation.

ACTIVITY:

Visit or walk by a vacant lot. Have the class make a list of things to be found in the lot.

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OBJECTIVE:

To provide students an opportunity to use their imaginations through writing.

ACTIVITY:

Have students write a short composition on what could be done to the vacant lot to make the best use of it.

OBJECTIVE:

To use imagination through speaking and or writing.

ACTIVITY:

Have children write or tell tall tales about what happened to them on the way to school.

OBJECTIVE:

To classify objects in the environment.

ACTIVITY:

Choose a category such as buildings, signs, people. Discuss from your category the various classifications of each. ie. Buildings - public, homes, religious, stores, etc. Have students classify the "buildings" near the school.

OBJECTIVE:

To make students aware of their sense of sight.

ACTIVITY:

Choose an object, ie. a tree, blade of grass, fence. Have students take turns describing this from different angles.

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OBJECTIVE:

To make student aware of their sense of sight and to improve their ability to distinguish between objects.

ACTIVITY:

Have students take paper and a pencil or crayon with them on their walk. Have them see how many different kinds of lettering for word they can find in signs, etc. on their walk.

OBJECTIVE:

To use imagination through writing.

ACTIVITY:

Write a story about the city if there were no traffic regulations.

OBJECTIVE:

To make comparisons and write about them.

ACTIVITY:

Have students write a composition comparing the street they live on to the street where the school is located.

OBJECTIVE:

To compare the English language to the (French, Spanish) language.

ACTIVITY:

Let children choose words from objects near their school that they would like to learn the pronounciations and spellings of in a foreign language. Write on cards and display. A dictionary with both languages may be needed.

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OBJECTIVE:

To read and recognize poems about the outdoors.

ACTIVITY:

Make available poems and poetry books which include poems about the outdoors. Let one child choose one each day to read to the class.

OBJECTIVE:

To develope vocabulary and spelling.

ACTIVITY:

Make crossword puzzles with the outdoors as a theme. Later narrow the theme to the weather, animals, plants, etc.

OBJECTIVE:

To use imagination through writing.

ACTIVITY:

Have the students write what the city would be like without sidewalks, roads, cars, subways, etc.

OBJECTIVE:

To use descriptive words.

ACTIVITY:

Have a child describe what he is thinking of and let the other children guess from the description. Start very general and move to the specific. (It is gray - large, wide, has a door, etc.)

OBJECTIVE:

To provide an opportunity for students to write.

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ACTIVITY:

Have the children pretend they are the mayor of their city. Have them write how they would clean up pollution in their city or on their particular neighborhood.

OBJECTIVE:

To read a newspaper and become familiar with its format.

ACTIVITY:

Have the class buy a daily city newspaper or bring a day-old paper from home. Have the children read the articles about their city. For primary students the teacher could read shortened versions of the articles.

OBJECTIVE:

To use reference books.

ACTIVITY:

Have children become familiar with the different varities of dogs, cats, birds, rodents, and insects. Have them classify those they see near the school, at home or in the park.

OBJECTIVE:

To write a story.

ACTIVITY:

Every neighborhood has a variety of people. It has those who are funny, rich, mysterious, mean, those who are good friends, etc. Have the children write a story about one person in their neighborhood whom they will never forget.

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OBJECTIVE:

To become aware of the noises around you and to discuss these with your classmates.

ACTIVITY:

Discuss the noises of the city. Which sounds do people ignore? Which ones alarm or frighten people? Where are noises dangerous to people's health? What should be done about noise pollution.

OBJECTIVE:

To use one's senses to describe the city around him. To write observations.

ACTIVITY:

Make a booklet for each child describing the school's neighborhood, the people, their clothes, the cars, etc. of 1974. Let all children take part in writing part of the booklet. Write on dittos so every child can have a copy. (or make a class book)

OBJECTIVE:

To discuss ones opinions and to listen to others.

ACTIVITY:

Discuss the good and bad things about city iife. Include - home, recreation, food, pollution, people.

OBJECTIVE:

To discuss and listen to others opinions. To research plant life.

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ACTIVITY:

Read about the importance of plant life to humans (oxygen). Discuss the importance of trees, grass, shrubs and plants. Discuss - The importance of these to a city, the reason there aren't more plants in a city, what can be done about this? How can we protect those that we have?

OBJECTIVE:

To make observations about the school neighborhood.

ACTIVITY:

Make a list of the "street" furniture in the school's neighborhood. (streetlights, benches, phone booths, litter baskets) Discuss the importance of these. What else might be needed? Have each child invent a new piece of furniture.

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# MATHEMATICS

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Mathematics is magic! It is the patterns and relationships that are reflected in nature - the symmetry of a leaf, the tossed pebble in a pond, the perfection of the human body.

Mathematics is the study of man in relationship to his universe. It provides an awareness, understanding and appreciation of himself and his world.

Our environment, whatever it may be, is rich with models, problems, patterns and relationships. To limit mathematical experiences to a book, a room or a time is to destroy the reality of the mathematics.

Understanding is derived from experiencing. Let us open the door to the infinite resources around us, and provide the children and ourselves with the excitement of learning.

The following activities are merely a beginning! We invite you to use them as a first step toward discovering and exploring the real world of mathematics.

Have a great trip!

ED 008 2

| MATHEMATICS TOPICS | ACTIVITY NUMBER |
|---|---|

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Sets, Number, Numeration . . . . . .1, 2, 3, 6, 7, 8, 9, 10, 11, 14, 15, 16, 19, 23.

Basic Operations with Whole Numbers and Fractions . . . . . .3, 7, 8, 10, 11, 14, 15, 16, 20, 23, 26.

Measurement

- Time . . . . . .5, 6, 7, 8, 11
- Linear . . . . . .5, 13, 25, 26, 27, 28, 30.
- Weight . . . . . .33, 34.
- Area . . . . . .10, 15, 16, 25, 27 35.
- Temperature . . . . . .32

Geometry . . . . . .17, 18, 19, 21, 22, 25, 29, 31, 37.

Probability and Statistics . . . . . .3, 4, 6, 7, 8, 9, 12.

Problem-Solving . . . . . All Activities

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1. Why do buildings have numerals?
   How are the buildings numbered on the street where you live?
   If there is a vacant lot on your street and a house or building was built on it, what numeral do you think it would have? Why?

2. Take a 10 minute walk. Keep a record of all the numerals you saw and their uses.
   What are some numerals that are important to you?
   Try this on your way home. What other numerals did you see?

3. How many stores are there on your street? What kinds of stores are they?
   About how many families live on your street? About how many people live on your street?
   (the "street" could be 1 block long or more depending on what the children wish to consider.)

4. Which street in your neighborhood has more stores? families? people? less stores? families? people?
   Make a graph of the numbers of each for each street.
   Make up some questions about your graph(s).

5. Estimate the time it would take you to walk the length of your "block"; run the length of your "block"!

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Now actually time yourself. Do this for several distances.

Always estimate first.

Record your data.

Think about how long it would take you to 42nd Street, the Staten Island Ferry Terminal, etc.

6. Where is the nearest traffic light?

How long does the light stay green, red, amber?

How often does the light change in a half an hour? an hour?

Check another traffic light. Are the times the same? Why? Why not?

7. Observe at a traffic light for 10 minutes. How many vehicles stop for a light each time it is red? Keep a record for 10 minutes.

What is the average number of vehicles which stop each time the light is red?

About how many vehicles stop in a half-hour, an hour?

Try this again at another time of the day. Is there a difference? Why?

At what hour (s) of the day are the most cars stopped? the least? Why?

8. Walk to a local intersection. Record, in at least two ways, the number of cars, cabs, buses, trucks and people that pass by in a 15 minute period.

Make some estimates first.

Organize and graph your data.
What generalizations can you make?
Write some questions about your data.

9. What color car do you think is the most popular? Find a way to check your conjecture.

What make car do you think is the most popular?

Make a survey of the colors and manufacturers of the cars you see. (You may wish to survey a parking lot; the cars parked along the street or the cars which pass an intersection.)

Record your data and make a graph.

What generalizations can you make?

Make up some questions about your graph.

Estimate the number of cars that will fit in the parking lot. How did you do this?

11. Are there parking meters in your neighborhood? How much does it cost to park for 1 hour?

Which is more expensive - to park your car for 4 hours at a parking meter or in a parking lot? For 8 hours?

Does the day or time of the day which you park your car make any difference?

What is the maximum that one parking meter can collect in one day? Week? Month?

How much could all the meters near your school collect in a day? Week? Month? Year? What is this money used for?

At what hours is parking allowed near your school?

12. How many cars do you think you would have to look at before you found 2 which had the same last 2 digits in their licen e plate numbers? ie. 815 RBW; 615 BR. Try it!

13. Look at the buildings around your school. How many are taller than your school? Shorter?

What kinds of buildings are taller? Shorter?

Estimate the height of your school building. Find a way to get a reasonable measurement.

Use the measurement of the height of your school building to estimate the heights of some other buildings around your school.

14. How many windows are there in your school?

How many window panes?

Find out how many window panes were broken in your school this year.

Find out how much it costs to replace each pane of glass.

How much for each pane of glass and how much for labor?

Where does the money to pay for this come from?

Why do you suppose people break windows?

15. Estimate first.

What is the area of the window glass in the cafeteria building?

Record how you found out.

How close was your estimate?

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16. Estimate how many bricks in the front wall of your school building? Find a way to count them.

About how many bricks do you estimate were used to build your school? (Or building where you live) Find a way to get a reasonable number.

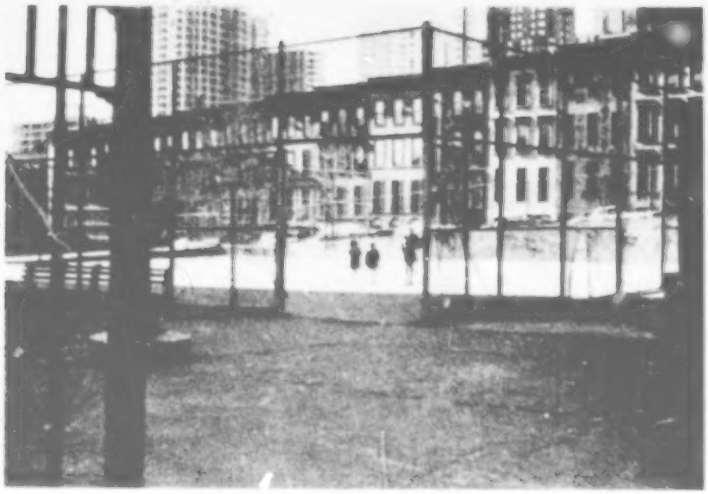
Find out about how much each brick cost.

About how much did the bricks cost for your school?

How many bricks are defaced with graffiti? How much of an area is this?

If the bricks were replaced, how much would it cost?

17. Make a list of shapes in this neighborhood that look like these:



What other shapes did you see?

18. Take a walk - look for shapes that are symmetrical. How many axis of symmetry do they have?

Keep a record of what you noticed.

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19. One definition of mathematics is the study of patterns and relationships. Take a walk and observe the patterns, numerical and non-numerical in this environment. Record these by either drawing them or describing them.

20. Here is an array of dots

. . . . . .
. . . . . .
. . . . . .

How does this arrangement help us to better perceive numbers? Take a walk around and look for arrays in your environment. Record the arrays you saw.

21. What kinds of angles can you find? Where did you see them? Draw pictures of them.
Did you find angles less than $45^{\circ}$? Where? Did you find angles more than $90^{\circ}$? Where?

22. Are there buildings being erected in your neighborhood? In the skeleton what geometric shapes do you see? Did you see triangles? Where were they?
Try making a scale model of the skeleton of the building. Is it sturdy? What makes it sturdy?

23. Walk around your playground. What kind of equipment does it have? How many swings? Seesaws? (The seesaw can be used as a physical representation of equations.)

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If the children were only using the equipment (swings, seesaws, etc.) how many children could be "having fun" at the same time?

24. Devise a non-standard timing device (such as a swing). Use it to keep track of the time it took you to:
a) hop from one end of the playground to the other.
Now convert this to standard time.
Try some other activities like this.

25. Is there a basketball court? How long is it? How wide? What is its area? (Measurements may be made in the metric system.)

26. How high is the basket? How high can you reach? Standing? Jumping?
How close can you come to touching the rim? The backboard?
How high can you jump? How far can you broad jump?
What is the difference between the height you can jump and the distance you can jump?
What is the ratio between them?

27. If a quart of paint will cover about 150 sq. ft. of area, would one quart be enough to paint the basketball boundary lines, mid-court lines, foul lines, etc. with a 3 inch wide stripe?

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28. Go on a treasure hunt!

Do not bring any standard measuring devices.

Find 2 things that you think are shorter than 6 inches. ( or 1 decimeter)

Find 2 things that you think are shorter than a foot but longer than 6 inches. (or shorter than 5 decimeters but longer than 1 decimeter)

Find 2 things that are almost 2 feet. (or 10 decimeters)

Complete a chart like this:

| | Item 1 | Item 2 | Actual Measure |
|---|---|---|---|
| 6 in. | | | |
| 6" 12" | | | |
| 2 feet | | | |
| Rectangle | | | |
| Acute angle | | | |
| Anything | | | |

29. Try a geometric treasure hunt. Find 2 things that are rectangular.

Find two things that are conical.

What other shapes can you find?

Find 2 things that have acute angles.

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30. Estimate First: Then measure the length of at least 6 different objects. Make a chart below and record your findings in inches, feet, yards; or centimeters and meters.

| Object Measured | Estimate | Actual Length | Difference |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

31. Measure the circumference and diameter of 8 circular objects you can gather.

Record your data on a chart like this.

What discoveries did you make?

| Object | Diameter | Circumference |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

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32. Find the temperature in both Fahrenheit and Centigrade of at least 6 different outdoor locations.
Record your findings on a chart.
Compare these temperatures in as many different ways as you can.
Try the same thing in at least 6 different locations within this building.
What things did you discover?

33. Find 6 things that you think weigh less than 8 oz. Weigh them. How close were you?

34. How much does trash weigh? Clean up a section of your playground for a week. Collect all the trash in a large plastic bag. About how much do you think it weighs. Think of ways of finding out. How much did a week's worth of trash weigh? A month's worth? A year? Would you believe it? Believe it!

35. Sample 3 locations no smaller than 100 sq. yds. Record the amount and kinds of litter strewn about. How would you use this information? What are the most common kinds of litter? What can we do to eliminate this problem?

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36. Where are the trash baskets located around the area you noticed the litter?

How do you think the city decides how many litter baskets are needed and where to place them?

37. Make a scale model or a map of your playground, classroom, school, block . . .

# PHYSICAL EDUCATION THROUGH MOVEMENT IN THE CITY

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Physical Education is a special kind of education. Besides being necessary for development and maintainence of a sound mind and body, it will be used every day in the life of every human being. It's one of the few things we must use, like it or not. It is the job of our educational society to see that each person is ready to live the life ahead of him. Life in the latter half of the 20th century will provide an increased amount of leisure time for most Americans. We must be prepared to use this time wisely. The outside environment is a natural setting for recreation and physical activity, whether it be urban, suburban, or rural. Many physical activities which are commonly associated with lots of open space can be performed just as well in a city. In fact, physical education is probably more adaptable to an urban environment than many other curriculum areas. A city offers many community resources which may be used for teaching physical education out of doors. Besides the traditional team and individual sports there are a host of outdoor recreational activities which can be conducted in an urban environment. These activities should contribute to the total social, emotional, and physical development of the child, provide successful group and democratic experiences, allow for increased understanding of our heritage and environment, and offer a realization of man and the outdoors. Whatever the

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activity, the primary concern should be how it will benefit the child and be a worthwhile asset to his life; one which couldn't have been attained completely inside the four walls of a school or gymnasium. Physical education must provide us with the skills necessary to cope with life. In a sense both physical education and outdoor education might be defined, simply, as life. Both enable one to learn about and experience the natural world which was here before human beings began to cover it with "progress." Today's children must be aware of the beauty and resources of the earth, and how to use and conserve them. The human body can easily be included as the most precious resource of the earth, for without it civilization obviously wouldn't exist. So it must be used and conserved wisely and therefore educated for such use by direct experiences in the outdoors. Physical education is life insurance; insurance that we can live satisfying lives on this earth, and enjoy them.

## Parachute Play - Up, Up and Away

A parachute provides us with a way of exploring the wind, grass , cement, litter, and sounds of our environment. It is also physically demanding and rewarding. When everyone takes hold of the parachute and begins to shake it, numerous patterns are created within the parachute, not to mention the unknown arm muscles which begin to work. How does the wind effect parachute movement?

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Have the children lift the parachute and make an umbrella. Why is there a hole at the top? Why does the umbrella stay up? How will it stay up longer? Lift the parachute again and walk into the center. A giant mushroom appears to the delight of all below it. Compare shapes of the parachute to things you see around you. Lift the parachute in rhythm to sounds you hear in the city. Make a mushroom again and sit down, pulling the parachute down behind you. The tent and the space inside belongs to you and you alone. Observe the sun, grass, and ants. Listen to the wind. Feel the wind. What does it do to your tent? Lay down and cover yourself up with the parachute. What do you feel? What are you thinking about? Make an umbrella or a mushroom and release it when it's high in the air. How does nature affect the flight of the parachute? Put objects from the playground, vacant lot, or street (litter) on the parachute. Lift the chute high and pull it down sharply. The objects should shoot into the air like cannon balls. Which objects work better? Why? Change places underneath the parachute. Trap people underneath the parachute. Retrieve objects from under the parachute. Move the chute to the music of the city.

## Movement Education-
## Perceptual Motor Development and Creative Movement

Movement Education is the foundation of the elementary physical education curriculum. Movement is the key difference between learning experiences provided inside the classroom and those offered in the physical education

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class. Every child must be exposed to and allowed to explore and discover various movement patterns. He can then select particular movements to perfect - progressing to his own level of motor ability. Perceptual motor training should provide experiences in gross motor and fine motor coordination, spatial relationships, balance, laterality, body imagery and awareness, auditory discrimination, and eye - hand and eye - foot coordination.

Ideas to explore locomotor movements:

... run, walk, march, gallop, skip, hop, jump, slide, leap. . . . . and non-locomotor movements . . . swing, sway, bend, stretch, curl, twist, push, pull, shake, rise, fall.

Walk along a curb and balance yourself. Hop or skip ... stop in the middle and bend, stretch, shake. Run in and out of the obstacles on the playground, change your movement everytime you hear a car horn. Freeze in a different position everytime you hear a car horn. Imitate the shapes of objects you see. Jump over, crawl under, go around obstacles in a vacant lot. March along the sidewalk and cement cracks. Skip over sidewalk cracks. Leap over fire hydrants, garbage cans, and litter.

Movement education consists of challenges and problems which will enable the child to learn and discover at his own level of development. Four large concepts are treated by posing problems which sequentially develop and refine movement skills.

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1. Where Can You Move - in self space, in general space, on different levels (low, medium, high), in different directions (forward, backward, sideways, up, down), on different ranges (near, far), in different pathways (straight, curved, zigzag) and in the air (flight).

Have children pick their own cement square on the sidewalk or playground and explore it. How much of it can they cover with their bodies? How little space can they take up? Explore a larger space. Must you move at different levels in certain places? Move at a low level and notice what there is to see down there. Move at a high level in a zigzag direction and avoid stepping on any litter. Confine your movements to a near range. A far range. Do you hit anything? Make your pathways follow the city streets. What kind of movements are you creating? Move in flight up and down the curb, over the cracks, under the fence, to the left of the sign, in between the parking meters - the possibilities are endless!

2. What Can You Move - awareness of different body parts and the changing relationships among them.

Identify the various body parts and match them to an object seen in the city. What body part looks like a curb, stop sign, slide, swing, garbage can? Touch the body part to anything found outside on the school grounds. Have children name the body part, object, and what it feels like. Different reactions as to feel might come from different body parts being touched to the same thing.

Put the fence between 2 body parts. Put a body part around a garbage can, on top of a bush, under a cloud, through a fence, on the right side of a building. Move around obstacles on 3 different body parts, on 4 different body parts, on any parts but the feet - again - the possibilities far exceed the beginning stated here.

3. How Can He (She) Move - create and absorb force, move on and off balance, transfer weight by rocking, rolling, sliding, stepping, and flying.

Jump on and off of anything on a playground or in the vacant lot. Kick garbage. Throw garbage. How much force is needed? Leap up and touch the highest point on a telephone booth, tree, fence, street light. What happens when you come down? Step from one sidewalk crack to the next. Move on and off a curb, or seesaw some. Balance on the litter in the vacant lot. Build a table from litter and try to balance on it.

4. How Can You Move Better - moving at different speeds - rhythmically, moving in bound or free flow, moving in sequences.

Match the speed of the traffic flow while moving on the sidewalk. Change movements when the traffic light changes. Follow the movement of the trees. Move within a certain part of the street or sidewalk. Move from a bush to a litter basket to a telephone pole to a fire escape to ...? State the level, pathway, range, and direction of movement. Follow a certain trail in the urban setting.

Creative Movement

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Use the garbage in the vacant lot to create an obstacle course. Have races, or go through it just for fun. Move like a subway train, bus, taxi, water from a fire hydrant, a garbage can that has just been kicked. Make a shape to match a bush, stop sign, mailbox, smoke-stack, or a window box. Move like the various shapes, odors, and sounds you find about you. Act out the job of a policeman, fireman, madman, or a garbageman. Pick up a piece of litter and describe it through movement how and why it got there. Imitate wildlife found outside your school.

In conclusion, there should be no end to the problems and challanges available to present to your students. The only limit other than time, might be yourself. However, you'll soon find the endless imagination of children will provide you with the necessary stimulus to "create food for their thought."

Suggested Reading:

Tilliston, J., Basic Movement Education for Children. Charles E. Merrill Pub. Co. 1973.

## Games - Relays - Hunts

Games which provide an opportunity to practice and explore mumerous movement skills are the backbone of a sound physical education program. They also offer an environment for development of good sportsmanship and social interaction.

Name any object or color that can be seen outside and have everyone run to touch it. Name anything that can be picked up and try to be the first to find it. Relays can involve the playground equipment, garbage, or any other obstacles found in the urban setting.

Suggested Reading:

Musselman, V.W., Learning About Nature Through Games. Harrisburg: Stackpole Books, 1967.

Hug, J.W. and P.J. Wilson, Curriculum Enrichment Outdoors. New York: Harper & Row, 1965.

Vander Smissen, B., and O.H. Goering., A Leader's Guide to Nature Orientated Activities. 2ed. Ames: Iowa St. Univ. Press, 1965.

## Object Handling Skills

Object handling skills are a vital part of an elementary physical education program and the basis for participation in most sports and recreational activities. Objects include: rubber balls, wands, jumpropes, deck tennis rings,

fleece balls, scoops, paddles, bats, bean bags, tires, hoops, and scooters. Skills include: throwing, catching, striking, kicking. Activities include: Bounce a rubber ball along a curb or sidewalk crack, against a fence or pole. Throw and catch the ball with a partner over a mailbox or fence, around a street light, under a bench, across the street. Tap a wand on the blacktop to the rhythm of traffic noise. Move it in the air in different patterns to match the architecture. Jump rope stepping once in each sidewalk square. Jump across the lot without stepping on any litter. Jump to the speed of people crossing the street, or the birds singing. Make shapes with the rope and move in and out. Toss deck tennis rings at targets such as fence posts, mailboxes, sewer covers. Hit fleece balls with different kinds of objects and see which goes farther. Throw and catch garbage with scoops. Hit leaves, rocks, or litter with paddles and bats. Hit targets outside with bean bags. Roll tires or hoops on a path and/or a trail in the city. Ride scooters through an obstacle course on the playground.

## Individual Sports

Golf, casting, track and field are lifetime sports which can be modified to be played in an urban setting. It is important that children be exposed to these as they can be carried over to adult life. The chances of them participating in individual sports as opposed to team sports later in life are much greater.

Modifications necessary to adapt each sport to an urban environment follow.

Golf: Sandboxes can be used for sand traps. A miniature golf course can be set up on the playground and/or vacant lot and/or sidewalk. Garbage cans may be used for obstacles and boundaries. Tin cans may be used for the cups.

Track and Field: Track and Field activities date back to ancient Greece. Americans are constantly exposed to them through the Olympics, T.V., and local athletic groups. Children have a sincere desire to participate in such activities which are tests of strength and endurance. Therefore, they are able to compare themselves to their peers. Activities include: Dashes - down the sidewalk, Runs - around the block, Relays - around the block or through the playground and vacant lot, broad jump - on the sidewalk, running broad jump - in the vacant lot with a dirt pit which has been made, triple jump - also in the vacang lot, high jump - can be made with a broom stick. Landing mats can be made of newspaper. Other activities include the discus and shot put - make shots from selected garbage, javelin - throw sticks or pipe in vacant lot, jogging - any place in the urban setting, cross country running - a course can be developed using the entire urban setting, streets, sidewalks, hills, lots, obstacles, etc.

Casting: Bait, spin, or fly casting can be taught without water. Targets for casting can be wooden discs, shapes on the sidewalk, or objects on the ground.

Map, Compass and Orienteering: Using the entire urban setting, these skills can be taught as a basis for orienteering, which is traveling along an established course

as quickly as possible, using map and compass to find your way. Explain the parts of a compass (quadrants, cardinal points, magnetic and compass housing, orientation arrow) and how to use it. Orientate the compass, move direction of travel arrow, take the bearing, and walk. Take bearings on buildings, fence posts, signs, traffic lots, litter baskets, etc. Measure distance by pacing to and from various objects. Furnish students with compass readings and have them discover where the readings direct them. Secure and or make a local map of the urban setting. Set up and follow a trail using corks, sticks, or garbage for trail markers. Use the compass to construct an orienteering course and have the students run it for time and accuracy. Hidden treasures can be located by compass. Run a cross country trail and map it using pacing and compass bearings.

Bicycling: Bike riding can take place just about any place in an urban setting. The current emphasis on bike riding as a recreational and leisure time activity is tremendous. Most children naturally want to participate. They should be taught bike safety, rules of the road, and how to care for their bike. While riding through a city, there are countless things which can be observed and discussed that will fit into almost any part of the curriculum.

Campcraft Skills: Campcraft skills can be taught in a vacant lot or on the playground. The woods and sidewalks can be used for hiking. Such areas as knot tying, lashing, hiking, pitching and striking tents and other shelters, outdoor safety, sleeping under the stars, and outdoor cooking can be explored depending upon the needs and age of the group. A day or overnight experience at a local park

can culminate this collection of activities.

Camping and outing activities form a core of the physical education curriculum which should not be underrated. These activities can branch out to almost any area and provide an extremely wide range of benefits. It is hoped that students would learn to live together and work together in a democratic society, come to depend upon personal resources learn about and appreciate the outdoors and our natural resources, and develop outdoor recreation skills and a love for nature and adventure.

# UNDERSTANDING YOUR NEIGHBORHOOD ENVIRONMENT THROUGH SCIENCE

Science is a way of looking at and learning about our world. Science investigation involves the use of the process approach, that is, it starts with a question. Solution to the problem involves formulating a working hypothesis or solution and through investigation, collecting and analyzing data.

Science investigation provides children with a technique for learning about and understanding the physical, chemical, and biological forces which shape the world in which they live. Today, an understanding of their environment is vital because technology, which we call progress, is often both beneficial and hazardous to the individual and to the environment. Sound decisions regarding the environmental impact of technology can only be made if the general public have a basic understanding of the process that shape their environment. An appreciation of the inter-relatedness of everything is also vital, so that everything man does must be evaluated in terms of how it affects the ecological balances which are so fragil.

This type of understanding will happen if science education starts in the early school years and continues through the adult years. To accomplish this objective goal, science teaching must get out of the classroom and laboratory where it has too often been confined and into the real world of the child, where all the concepts

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important to an understanding of science can be experienced first hand.

The world in which children live, the neighborhood, provides innumerable resources which can make science curricula and indeed, all curricula, come alive and real to the child. The investigative approach can help children and students begin to understand that world which they know so well, their neighborhood, which is a microcosm of the entire city or community.

The author takes a broader view of the neighborhood then just science and attempts to show the teacher that a science investigation, if carried to its natural conclusion, can provide enrichment in social studies, language arts, math and other curricula. Suggestions and ideas are offered in the form of questions without saying 'This is the way it should be done.' Thus permitting the teacher to develop his own style and technique.

Indeed, pursued in this manner, school curricula can be given a unity which is not possible in the separate curricula. Language arts and mathematics take their rightful place, not as subjects but as tools for living in and understanding the real world in which children live. The material which follows, provides an introduction to the resources available in any urban neighborhood, which can help teaching transform science into an adventure in learning.

TOPIC PROBLEMS

I. Buildings

A. Construction Materials

1. What are the different kinds of construction materials used?
2. Are the materials used in their natural state or changed?
3. From what kinds of natural resources do construction materials come or made from?
4. What are the geologic origin of materials used in construction?
5. What is the geographic source of natural resources used in construction?

B. Design

1. How are tall buildings anchored to the ground?
2. How are buildings designed to provide needs of occupants?
   a. What are the basic needs of people?
   b. How are each of the needs provided for?
3. How are buildings designed to be pleasing aesthetically?
4. How does building design zone space for comfortable living?

C. Kinds of Buildings

1. How many types of structures (based on use) can you find?
2. What community zoning regulations determine the types of structures that are permitted?

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II. Street

A. Roads

1. Construction materials (refer to I A 1-3)
2. Manner of construction
   a. What determines the width of streets?
   b. Who builds roads?
   c. Are roads level?
   d. What causes roads to break up?

B. Sidewalks

1. Construction materials (refer to I A 1-3)
2. Manner of construction
   a. What determines the width of sidewalks?
3. What kind of surface is best for sidewalks?
4. What regulations exist concerning how sidewalks are used?
5. Who is responsible for snow removal from walks?
6. What causes the destruction of sidewalks?
7. What features are associated with walks? What is their function?

C. Street Communication (Safety)

1. Vehicular signs and signals. What types of signs and signals exist for vehicle and pedestrian safety. ie. speed signs, no parking, stop signs, traffic lanes, directional, caution lights, parking

   How are color and light used in safety?

2. Pedestrian signs and signals. List the signs and signals used for pedestrian safety.
   lights
   directionals
   crossing zones

3. Miscellaneous signs. What other signs can you find along the street?

III. Community Services

A. Fire Protection

1. Fire Alarm

What is its purpose?

How do firemen know from which box the alarm came?

How far apart are the boxes?

2. Fire Fighters

How large is the force?

How many men man a truck?

On what basis are they distributed to the five buroughs?

3. Fires

How do fires start?

What conditions are needed for things to burn?

What kinds of things will burn?

What are the different types of fires?

What are the ways fires are put out?

4. Prevention

What can we do to prevent fires and loss of life and property? Trash removal, fire escapes ...

5. Hazards

What are the hazards of fire?

What losses are incurred due to fire?

B. Police

1. What are some ways traffic police protect the community?

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2. How do foot and motorized patrols protect the community?
3. List other activities of police.
4. What equipment do police use to protect the public?
5. What determines the size of a police force in a community?

IV. Community Health

A. Sanitation

1. What are the principal activities of the Sanitation Department?
2. List the types of waste materials taken from your home?

   What are some ways they can be classified?

   What types of waste are found in greatest abundance?

   What volume (by weight) is each types listed?
3. How are wastes packaged for collection?

   How often are pickups made?

   Has New York City always had a Sanitation Service?

   What special equipment is used by sanitation men?
4. What happens to garbage and trash after pick-up?

   a. Incineration

      Where is it burned?

      What are the advantages and disadvantages?

      What are the conditions needed for burning:

   b. Sanitary landfill

B. Water Supply

1. Sources

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How is water stored in the land?

How many ways can water be found in your environment?

What is the water cycle?

What are the states of water?

What is a watershed?

What is the watershed for New York City?

Why protect watersheds?

How is beauty associated with water?

2. Transport

What is the geographical source of New York City water?

How does water get from the reservoir to New York City?

How does water get to the tallest building?

3. Purification

What processes of purification does New York City water undergo?

Why is purification necessary?

How is it purified?

What mechanical or chemical methods are used?

4. Waste Water

What happens to the water after it is used?

What are the different kinds of waste water in the home? School?

Why should waste water be treated?

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How would untreated waste water affect ponds, streams, bays, etc. if dumped into them?

5. Importance of Water

List the different ways water is important to your body.

To Plants?

To Animals?

How is water important to the physical environment in which plants, animals and humans live?

How can water be destructive?

How does water bring beauty into the environment?

6. Other Forms of Water

a. Snow

What weather conditions produce snow?

What does snow look like?

How much snow falls during a snowstorm?

How much snow does a given volume (sq. ft. area) of snow yield?

Do all snowfalls yield the same volume of water?

What conditions cause snowdrifts?

Does snow melt at a uniform rate in all parts of your neighborhood?

What is good about snow?

What is bad about snow?

b. Icicles

Where do they form?

Under what conditions do they form?

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Examine one in cross-section. What do they look like?

How long does it take one to form?

How are they similar to stalactites in caves?

V. Sounds of The City

What causes sound?

What sounds in your neighborhood are pleasant? Unpleasant? Natural? Cultural? Beneficial?

How are sounds different?

How would your life be different if you could not hear?

How is the ear structured to receive sounds?

What role does the brain play in hearing?

VI. Cultural facets

A. Architecture

Who designs buildings?

What are the tools of the architect?

When were the different buildings constructed?

Were they all of the same period?

What clues can you find to determine whether they were built at the same time?

What will the new structures look like?

What are blueprints? How will they be made?

How will the new structures be different from the ones they replaced?

Will the new buildings be as crowded together?

What are some advantages of highrise? Disadvantages?

B. Automobile

Trace the history of the automobile?

Were they always here?

How did people travel before the car?

Make a list of the natural resources used in

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making cars. In operating a car?

How does a car operate?

How is energy obtained from fuel?

Why do cars contribute to air pollution?

How is the energy stored?

How is energy distributed throughout a car?

How is a car protected against overheating?

How is friction both beneficial and a liability?

What is the geological origin of fuels?

What is the geographical origin of fuels?

How is air important in the operation of a car? Water? Oil?

How many cars pass between 96th and Lexington Ave. in an hour, in a day?

C. Commercial Businesses

1. Druggist

What kinds of substances and materials are sold under the name of drugs?

From what do drugs come? How are the classified or grouped?

What things do drugstores sell that are not drugs?

Why must some drugs be prescribed by a doctor?

How are new drugs tested before being used on people?

2. Grocery

Under what categories is food in your supermarket grouped?

List the foods in each category and indicate their origin (type of plant or animal).

List the non-food items in your super-

market.

What different ways are used to protect foods from spoiling?

What kinds of chemical preservatives are used in prepared foods?

List the foods which reflect a distinct culture.

Explore the meat dept. for the different animals used for food.

How is food you take home packaged?

How many different covers do some have?

Is such packaging necessary?

How many different kinds of plants are used for food?

Examine the different foods in your supermarket. From what part of the country do they come?

What basic nutrients do we get from foods?

3. Bakery

What simple organism is the basis for the entire baking industry?

How are bakery products classified?

What basic materials go into bakery products?

What causes bread and cake to rise?

What things are grouped under confections?

How do bakery products differ in calories?

Why is careful measurement important in the bakery industry?

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4. Liquor Store

What are the different kinds of alcoholic beverages?

From what materials are they made?

What organism brings about fermentation?

What product is a result of fermentation?

How is pure alcohol obtained?

How does alcohol affect the body?

5. Tobacco Store

What are the different kinds of tobacco products?

How are they used?

Where is the product grown?

Why do people use tobacco?

What affect does it have on the body?

6. Dentist

What kinds of things do dentists do?

What different kinds of teeth do we have?

What is the role of each kind?

How many teeth are there in a full set?

What causes tooth decay?

What conditions speed up decay?

How can it be prevented?

What materials do dentists use in their work?

How does a dentist take an impression of your mouth?

Why is it important to have an exact impression?

What is the composition of teeth?

What must our diet contain for good teeth?

7. Slip Cover Shop

What types of materials are used for slip-cases?

How is cloth made? From what kinds of materials?

What types of dyes are used in creating different color patterns?

From what do dyes come?

What skills are needed to measure, make and fit slipcovers?

8. Restaurant

What types of foods are sold?

What is their specialty?

What kinds of foods are purchased? In what quantities?

How is prepared food kept from spoiling?

What are the different ways food is prepared?

How is cleanliness maintained?

What precautions do food handlers take to prevent spread of disease?

What happens to waste food?

How could waste food be recycled?

What special equipment is used in a restaurant?

What kinds of jobs are available in a restaurant?

What skills are needed?

9. Cleaning Establishment

What is dry cleaning? How does it differ from wet cleaning?

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What kinds of chemicals are used?

Are the same chemicals used for all clothes?

Why are dry cleaning materials hazardous?

What precautions must be taken?

What hazards are there to the health of the workers?

If dyeing is done, what dyes are used?

From where do the dyes come? From what are they made?

How is dyeing done?

How is running prevented?

Do colors fade easily?

If laundering is done what soaps or detergents are used?

How do they differ? What is their composition?

Do detergents contain phosphorus?

Why are detergents containing phosphorus banned?

What effect does phosphorus have on natural bodies of water?

What happens to the waste water?

10. Hospital (Old Age)

What are the different divisions or sections of the hospital?

How many patients can the hospital handle?

How is the food prepared?

Are special diets needed? Who prepares them?

What precautions are taken to prevent the spread of disease?

In what ways can disease spread?

Who prescribes drugs?

Does the hospital handle its own laundry?

How are linens handled to prevent the spread of disease?

Does the hospital have laboratories?

What are the different labs?

What are the functions of each?

Why is it important to keep accurate records?

What happens to hospital wastes?

What different kinds of jobs are there in a hospital?

What kind of training is needed?

Does the hospital have special programs are there for patients; recreation; rehabilitation; out-patient; etc?

VII. Natural Phenomenon

A. Weather

1. Temperature

How does the temperature vary at different times of the day? In different parts of the environment?

What affect does sun or shade have on living things?

How does temperature affect plants and animal behavior?

What adaptations do animals have to protect themselves from unsuitable temperatures?

2. Rain

What is the look of rain in the environment?

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What is the water cycle?

How does rain affect the behavior of people and animals?

How does rain affect plants?

How does rain affect the environment?

How much rain (inches) falls during a given rainfall?

How does rain affect the quality of air?

What do puddles and floods tell us?

What does the deposition of silt tell us?

What are some destructive efforts of rain?

3. Wind

What direction does wind come from?

Does the speed of wind vary in your neighborhood environment?

How does wind affect temperature?

How does wind affect the behavior of people? Of animals?

How does it affect plants?

In what ways is wind beneficial? Harmful?

4. Sun

What is light?

What happens when a beam of light is passed through a prism?

How do we explain the phenomenon of color?

How is the eye structured to differentiate between color and black-white?

How is light energy from the sun converted to chemical energy in food?

How can we demonstrate that all animals

depend on green plants?

VIII. Vacant Lots

What was the area like before land clearance?

How long has it been vacant?

How old were the previous structures?

What was their condition?

Where did the people who lived there go?

How many families were dislocated?

Did they get assistance in moving?

Is the new development well received by the people in the neighborhood?

Will the people who were evicted have an opportunity to return?

Will the development accommodate multi-economic levels?

Will it encourage diversity (mixed uses)?

Will it spur econonmic well being for the residents?

What forms of life are evident in the vacant lot?

Make a list of all the living and non-living things there are in the lot?

Is there litter? Why does it occur?

What hazards result from littering?

What practices could be encouraged to change the pattern of littering?

What is the nature of the soil in the lot?

Is it different from the soil else where?

What is the physical nature of soil?

Does water penetrate the soil easily?

Do puddles form after rainfall? Why?

Is a vacant lot perpetually vacant?

Can you trace the uses of this lot back 100 years?

What would happen if the lot were undisturbed?

# SOCIAL STUDIES

To say that you are going outside "to do" math or social studies or language arts, or whatever curriculum area you can think of may be cheating yourself and your students, for when you do this you are putting on a pair of curriculum blinders and the wholistic aspect of learning may very well be lost. The world is not divided into single, neat units of any curriculum, but the different disciplines overlap, blend, compliment one another. Outdoor education provides one of the best opportunities for students to appreciate and to practice learning through this wholistic concept of education. That is, if you, the teacher will allow it to happen.

Why then, you ask, is this booklet divided into disciplines and activities? This was done so that you might be better able to visualize what we mean by outdoor education. Once this appreciation is gathered then it is up to you to provide opportunities for your students to use and to combine these suggested activities as a means of enriching the present curriculum.

As a teacher in an urban environment you are more fortunate than many suburban or rural teachers in regard to the possibilities for using your out-of-doors to enrich your social studies curriculum. There seems to be more materials for learning (within easy walking distance) in a city area when one considers man and his environment, for it is within cities that man has chosen (perhaps not totally freely) to concentrate himself. Social studies has as its focal point man, and concerns itself with the way man, past, present and future, interacts with the environment, the word environment to be interpreted in the

broadest sense.

Take a walk around your block and count the numbers and kinds of occupations you can observe. Would you observe differences if it were 100 years ago, a different city, a different country? Are uniforms associated with any of these? Why? Just by observing the physical things around you can you think of any occupations that were/are responsible for them? Can occupations be classified?

What kinds of building materials and architecture are present within your neighborhood? Do you notice any trends? What are the origins of the building materials? Can you make some of these materials yourself - ie. a brick? What differences and similarities exist between types of architecture? What do you think of the inspiration for these different types? Identify things which you consider utilitarian. Those you consider nice, but not really necessary. Which came first, form or function?

Construct a map of your neighborhood - include legend, N-S orientation, latitude - longitude, contour lines, etc. Think of different kinds of maps - ie. population density, litter density, drainage patterns, vegetation type, etc.

Construct an underground map of your neighbohood - ie. pipes, wires, basements, sewers. Use surface features (ie. fire hydrant, sewer plates, elevator shaft) to help determine map.

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Go outside and pretend that you have come back to this era from the future. The only things left are this present civilization's letters and numbers. What can you deduct about this era just by these things alone? Coming down to earth from a far away planet, you discover a vast array of earthly things you are unfamiliar with. You must report back to your leaders what each of the things look like, their purpose, etc. (without naming them, of course.)

Man uses symbols for many purposes. Go outside and discover some of these symbols and their purposes - ie. cross on church, abbreviations on sewer plates, red and green traffic lights, Rx on drug store, picture on a store front, a luxury car, hand movements of various people, fences, etc. How do these things make you feel? Can you make symbols for other things?

The city has a complex of interacting systems (sanitation, fire, water, food, education, religion, safety, etc.) which help maintain the city as a city. Find out more about these systems by going outside and identifying them, seeing them in actual operation, interviewing people involved with them, seeing if they have counterparts in various other times and/or cultures, comparing them to a natural ecosystem, etc. Think of the water cycle as it occurs in nature. What happens to rain as it falls in the city - runoff, puddles, some soaking in. How does man intercept or interrupt the water during the cycle - catching it in reservoirs, pumping it through pipes for various uses (fire hydrants, street cleaners, fountains). Go into the various stores and businesses within your

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neighborhood and discover how they use water. Does this water ever get back into the water cycle?

How many things can you find in your neighborhood that are concerned with safety ie. crosswalks, stop sign, radial tires, rubber bumpers, safety glass, warning signs, policeman, gas station attendant wiping a windshield, garbage men hauling away garbage, etc.

The above suggested activities and ideas should prove to be only a fertile seed bed. What is up to you now is to plant your own seeds of imagination and creativity within this bed and with suprisingly little care you can observe the growing and flowering of meaningful educational experiences.

Bibliography:

Although there are quite a number of books listed, if you can get just two of them you should be able to gather enough ideas and materials to last a whole year or more. These two books are:

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# SOUND AND MOVEMENT EXPLORATION ON A CITY BLOCK

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The city block can be explored and learning enhanced when the walls of the classroom are opened up to the world outside. The indoor and outdoor environment share similar learning blocks, however our children are not made aware of the building fronts, vacant lots, cloud patterns or windows that could help expand their horizons in math, science, art, movement and other school subjects.

Sitting or working in a confined space makes for static learning experiences. We all need to stretch and expand, not only our minds but our bodies as well. Visiting the gymnasium in the course of a day allows the children specific expansive movement patterns that will make for a somewhat freer soul to return to the four class-room walls. However, wouldn't it be a fine experience, if our children didn't have to rely on those four walls, or the space housed within them to find their learning? If they are properly oriented to the environment, they can begin to feel the same freedom of clear movement outside as they would in the gymnasium.

It is essential to integrate the psyche and the body if learning is to occur. I am proposing that if a child physically feels a concept, his learning of that concept will be enhanced. He will not only be expanding his cognitive vocabulary, but his movement repertoire as well. By taking the children outside and exposing them to the

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city block, we are adding one more dimension to their possible duality of learning, ie. the cognitive and the physical. Cognitive learning combined with motor learning in the context of the classroom and the outdoor environment may allow our children to retain their energy and drive for knowledge that is usually squelched by conventional learning situations.

It can be emphasized that a vacant lot, a fire hydrant, a cloud and other features of the environment have an energy particular only to their form. With this in mind, if the child can move his body, concentrating on the angularity of the empty can in the lot, the width of the hydrant or the expansion and contraction of the cloud formations, he will be experiencing physically and mentally, concepts found in math, science and art.

There are geometric shapes found on buildings, be they tall or short. There are contrasting colors seen from store fronts, taxi cabs, busses, sidewalks, etc. With the aid of the teacher to help point out these stimuli the children can respond physically by moving and integrating the concepts in a broader way.

Along with the environment of a city block being used as a resource for movement activities, it is also a resource for sound experiences. We all hear sounds. They are forever present and we hear them when they impinge on our consciousness. Undifferentiated sounds produce noise, while an integration of differentiated sounds or rhythms

produce music for some, noise for others.

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There are two circumstances from which sounds are produced. The first is nature made. Even in our city we can find birds, trees, leaves, grass and of course dogs and cats. These sights and sounds, produce different emotional feelings for us than those produced by our second circumstance which is man created. Man randomly imposes sounds in his environment. The impact is often noise. There is the garbage truck, the fire engine, car engines and horns, playground sounds, and ambulances. All these can first be listened to in a cluster, not differentiating one from the other and then as singular sounds. When these sounds, nature or man-made are heard singularly, that is one differentiated from the cluster, then the noise or music inherent in that single sound can be used to give access to particular emotional expression.

All these sounds of the city block can be interpreted through movement, denoting the emotion it produces, the intensity, and the rhythm inherent in the sound. By the use of movement to interpret, the children can feel the components that go into making each sound what it ultimately is. The bird's sound is different than the fire engines', which is different from the swoosh of the wind in the trees. Through the use of movement, the interpreted differences can be seen as well as heard.

In conclusion, Ray Barsch, in his books, Achieving Perceptual Motor Efficiency (1967) and Enriching Perception and Cognition (1968) expressed more clearly the integration

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of moving and learning by stating, "Man is designed to move. Physical and cognitive movements are inseparable. He moves. He learns. He learns to move. He moves to Learn."

The focus in this next section will be concerned with exemplary movement ideas in relation to particular features of the environment.

## BUILDINGS

Buildings are suppliers of much information from which we can derive movement concepts for interpretation.

There are different window shapes, some long, some

short, some long and wide, some long and narrow. Is the longest length in windows vertical?

What does it feel and look like to be long and narrow or long and wide? How can this be shown in movement?

Have two children stand next to each other and pretend one is long and wide. What do they look like standing next to each other? How long and narrow can they make themselves? How long and wide can they be?

What does it feel like to be flat and long?

Is the longest length in bricks horizontal?

Combine the movements of long and narrow and wide, long and flat. What does it feel like?

Have the class try moving through the contrasting shapes as seen in the windows and bricks. What does that feel like? Can they switch movements quickly and slowly? How does that feel as compared to the previous movements?

While this is all happening, the concepts of vertical and horizontal will be taught.

Look down the block at another building. Are the window shapes the same as (math concept) or different than (math concept) the first building you used?

Is it a newer or older building? Can you tell from the quality of the architecture? How would you look if you were old and not well taken care of? Indicate by your movements how you might feel being old. How might you feel if you were young and beautiful? Walk like you were.

Are the bricks of the two buildings brighter or duller colors? Move your arms in a cheerful way. Move your legs in a sad way.

Are the bricks on the building smooth or rough? Move your head smoothly. Move your shoulders in a rough way.

Like the differences in windows, some buildings are higher and narrower than others. Move your whole body, showing the contrast of tall and short, narrow and wide.

What is the season and weather? (science) Is there frost, snow or rain drops on the windows or bricks? What would you feel and look like if you were a melting piece of ice on a window sill? If you were a raindrop and the wind blew at you all day, how would you try to stay on the window pane? Show us.

To conclude, have the class members do a dramatization using all the interpreted components, each person taking on the style and structure of different areas covered.

# VACANT LOTS

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Vacant lots provide us with many shapes, colors, sizes and varieties of litter.

What is it like to be litter in the middle of all that garbage? Have the children stand together in a big clump. The children on the inside can try to get to the outside of the clump. Is it easy? Is it hard? Think how the sanitation men must feel about tackling all that litter in the lot, if it's all so hard to get to and there is so much to be removed.

The nature of community affairs can be discussed here.

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What objects do you find in the lot?

Empty cans. Move, copying the angles of the can you might find. Are the angles sharp or smooth? Is the can big or small?

Old chairs. Is a leg missing? How might you walk without one leg?

Old tables. What is the surface like on the table top? How is it laying on the ground? What is the angle? Can you copy it with your body? (math) Would you fall if you stayed at that angle for a long time? Why?

Tennis ball. How high can you bounce? How far can you be thrown? Make your body as round as the ball. What is roundness? What is a sphere? (art and math)

Baseball bat. How would someone swing you if you were a bat?

Folded paper. If the wind blew you, how would you unfold? Show us.

Field mouse. If you were a mouse how would you look, running over the mounds of litter? Would it be easy or difficult? Run like you think the mouse would.

Are the colors in the lot bright or dull?

Dramatize the bright objects and then the dull objects. Is the feeling the same for both? Why?

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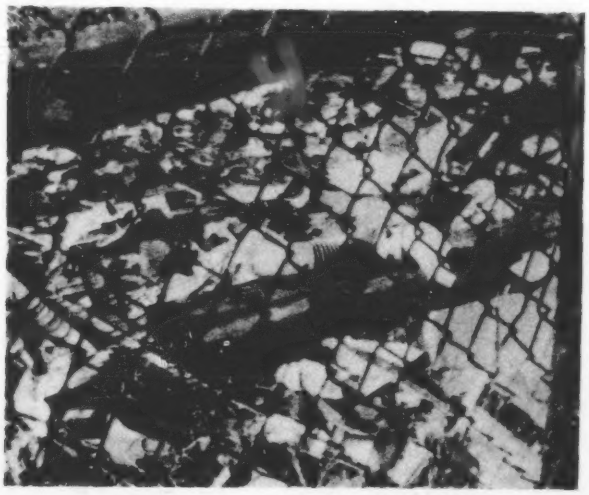
Is there a fence around the lot? If so, what does it feel and look like to be fenced in? Try to move out from behind a fence. Is it easy? Do you like it? How do you feel about fences?

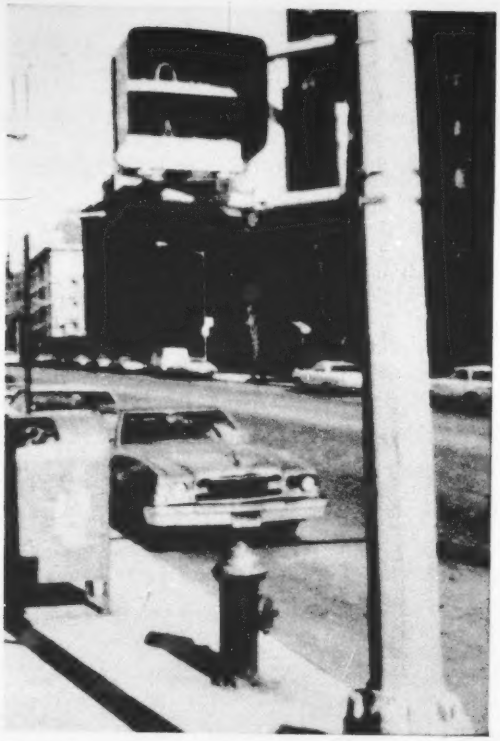


What kind of space is available? How would you move if you had alot of room?

There are many overlapping subject areas that can be brought out in the movement dialogue.

## FIRE HYDRANTS

Fire hydrants jut up from the pavement vertically and have a nozzel that sticks out from it in a slight horizontal.



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What would it feel like to be as big as a fire hydrant? Try it. Show how the water gushes out quickly or slowly.

Show how the water trickles out.

Move like the water comes out in the summer after the firemen put on a special sprinkler nozzle.

Move like the water going through the pipes to put out a blazing fire. Other children can pretend they are the flames of the fire.

What does the water sound like as it gushes quickly? Slowly? What is the rhythm? Can you reproduce the rhythm

with your body?

Can you hear the water hit the pavement? Does it splash? Do the sounds repeat themselves?

What does the water look like when it hits the ground? What shapes can you reproduce with your bodies?

These are some activities to allow the children to become acquainted with the services firemen and fire hydrants give to our city. The proper use for fire alarm boxes can also be incorporated.

## CLOUDS

From the buildings and lots we can look to the sky above. A wonderful science lesson can evolve from observing the movements of clouds and have the children respond with movement. Before going outside, it can be discussed that different cloud formations occur, depending on the weather. Show pictures of the various kinds of clouds and then take the class outside. See if they can identify the types of clouds they are seeing. Have them show, by their movements whether the clouds are soft and fluffy, dark and ominous, sparce, dense or any other adjectives that can be supplied. This lesson can also provide material for a creative writing lesson.

Can the children see familiar shapes in the clouds? Have half the class act out what they see and other half

guess what they are. Then reverse it.

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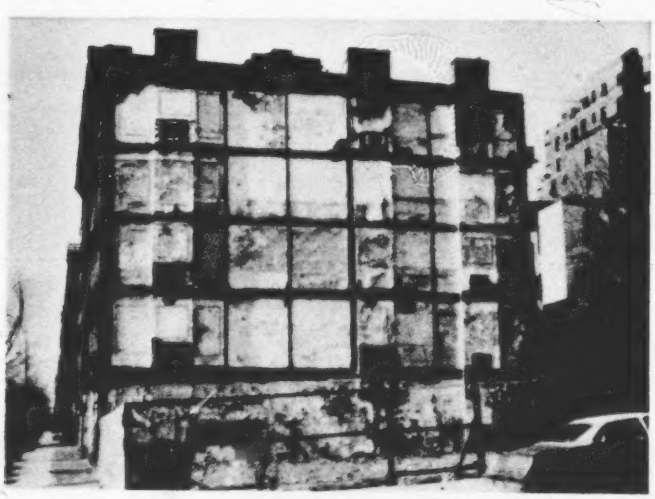
Do the clouds expand and contract? How do they move? Act out their movements.

Do the buildings cut into the patterns of the clouds? What does it look like? Show us in movement.

## MAN-MADE SOUNDS

| | |
|---|---|
| Taxi cabs | Ambulances |
| Buses | Airplanes |
| Cars | Fire Engines |
| Trucks | Construction materials |

These man-made machines provide us with great sights and sounds in the city.



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How many colors (art) can you count in the above named machines as they pass you on the street?

How do all the masses of colors make you feel? What does red mean to you? Yellow? Blue? Are you happy? Sad? When you think of the color red (yellow or blue) how do you feel? Move your bodies like the single colors you see.

What are the singular sounds of each vehicle? Reproduce the intensity and rhythm of each with your body.

Is the fire engine sound different than the ambulance sound? Show us the difference with your movements.

How would you move if you sounded like an airplane? Fast? Slow? Jerky?

What shape might you be if you sounded like an airplane or an ambulance?

Are all car horns the same? Is one louder or softer than another?

Are the car horns louder or softer sounding than fire engine or ambulance sirens? By changing the intensity of the rhythm in your bodies contrasting the various sounds by moving.

What are the sounds of balls bouncing on the pavement? Jump ropes hitting the ground? See-saws? Swings creaking?

How do they make you feel? Happy? Sad? Show us by your movements.

How do all these sounds in a cluster make you feel? Move your body in that feeling state. How do the sounds singularly make you feel? Move your bodies in those feeling states.

Imitate the sounds as you move. Are they noises to you or music? What is music? (science and rhythmics) Are all the sounds the same when the vehicle or machines start and stop?

Imitate with your bodies a vehicle starting and stopping.

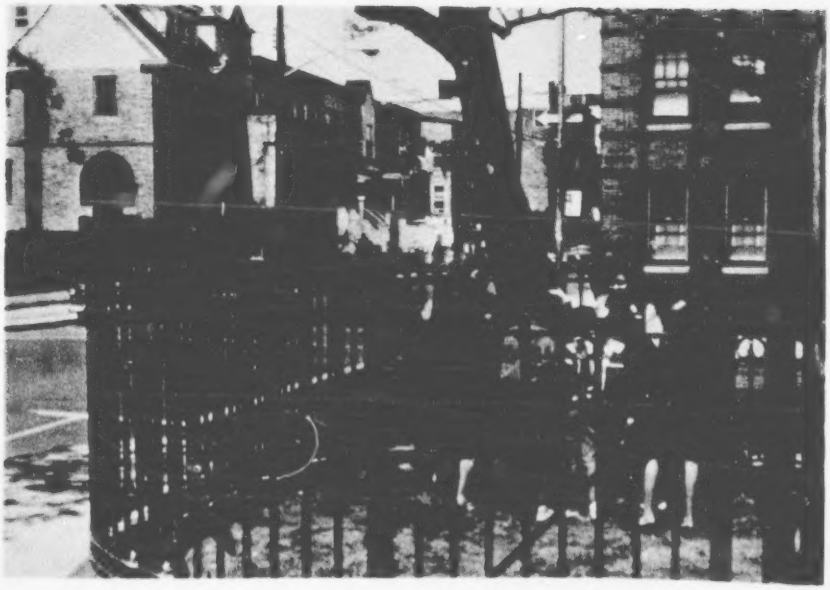
Show the quick reaction timing of a car driver who has had a pedestrian walk in front of the vehicle. Have pairs of children act this situation out. (Safety and rules of the road can be enumerated here.)

NATURE MADE SOUNDS

Birds
Leaves
Trees
Grass
Dog and cats
Man

Are any of the sounds from these sources different or the same as the man-made sounds such as the ambulance, etc? How? Can you reproduce these differences with your body?

Do the trees have a sound?



Are the branches a part of this sound or are the leaves all you can hear?

What shape are the leaves? Make your body the shape of the leaves and imitate what a leaf looks like as it falls to the ground or as it sways on the branches. Does it make a sound?

Are all dogs barks the same?

What might you look like if you had a deep, forbidding bark or a squeeky bark? Show us with your body.

Are these sounds the same as those of birds? Trees?

What sounds do people make when they walk in the street?

How do the playground sounds differ from the other street sounds? Imitate those sounds, paying attention to the differences.

Reproduce the different rhythms with your body. What emotions do you have toward these nature sounds?

How do they make you feel? Are the emotions different than they were for the man-made sounds? Show the emotional feelings you may have through body interpretations.

These experiences can be brought back into the classroom and incorporated into a creative writing lesson or a primary music lesson.

MUSICAL BAND

Before returning to the school building, have the children collect any and all objects they can carry and that will make a sound, be they nature or man-made.

Once inside, the children can be divided into groups with those who have similiar sounds sitting together or separately or all together in a group.

They can experiment with combinations of materials that will produce varied sounds and rhythms, making any musical variations they care to experiment with.

In conclusion we tend to think of taking ourselves to the country for the outdoor experience, when we need only step outside our city dwellings to find many rich learning experiences.

In my examples, I've attempted to give a perspective on the possibilities of movement and sound experiences in relation to the outdoor, urban environment.

Movement provides a vital way in which concepts can find a more total integration into cognitive learning. It is a medium whereby the individual can non-verbally express his or her feelings and perceptions.

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